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ABSTRACT

This monograph describes three types of evaluation that are potentially useful to school-based clinics: needs assessments, process evaluations, and impact evaluations. Two important methodological principles are involved: (1) collecting multiple kinds of data with multiple methods; and (2) collecting comparison data. Student needs can be identified by using student and parent surveys or community data. Various management information systems are useful for collecting process data on clinic utilization. Student satisfaction can also be easily measured, and site visits by other professionals can help identify clinic strengths and weaknesses. Outcomes are harder to measure because clinics typically serve relatively small student populations for any particular health outcome and the students who patronize the clinic differ from those who do not. Diffusion and self-selection are major problems. The traditional solution is to use an experimental design (based on a large sample) that measures the clinic's impact upon participants. The best method of measuring the clinic's impact on the entire student body is to collect survey data from all the students or merge lists of student names with birth records or other public records. Rates can then be compared over time or between clinic and similar comparison schools. Appendices contain the student health survey, an explanation of the Center for Population Options School-Based Clinic Management Information System, and a description of methods for assessing a clinic's pregnancy prevention program. (13 references) (MLH)

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By Douglas Kirby, Ph.D.

Research Methods for Assessing and Evaluating School-Based Clinics

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CPO's national and international programs seek to improve adolescent decision-making through life planning and other educational programs, to promote the development of school-based clinics, and to prevent the spread among adolescents of HIV and other sexually transmitted diseases.

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Douglas Kirby

Preface

Evaluation is a necessary and important part of the development of all programs, including school-based clinics. Well-designed evaluation can help clinic administrators and others understand more clearly what needs their potential users may have, what their clinic programs are currently doing, what impact the programs have upon participants, and how the programs can be improved. Of course, evaluation may also be necessary to demonstrate success and thereby maintain or secure program funding.

School-based clinics around the country are in different stages of development and have different research or evaluation needs. The purpose of this monograph is to help those who are contemplating or actually designing an evaluation project. This monograph discusses three types of evaluation, their purposes, the variables to be measured, the study designs, the target populations, and the sources of data.

Many professionals considering an evaluation of clinic programs are clinic administrators or practitioners who have relatively little research background; thus, this monograph covers some basic research principles that apply to clinic evaluation. Other professionals designing an evaluation are experienced researchers; they may want to skim parts of this monograph quickly and focus on those parts that are most useful to them, for example, the sections on experimental design and generating birth rate data. Throughout the text, readings are suggested for those who seek more information on a particular topic.

Much of the information included in this document is based on lessons learned from a large evaluation of school-based clinics conducted by the Center for Population Options and from the collective wisdom of advisory board members who have had extensive experience with school-based clinics, with evaluations of pregnancy prevention programs, and with research more generally. Some of the methodological innovations of this monograph (e.g., the methods of measuring school birth rates more accurately) were developed explicitly for this project. Other materials developed or refined for this project include the Student Health Survey and an inventory of important characteristics of clinic reproductive health programs. Finally, available in a separate volume is a management information system that was also developed for this project and that can provide much of the process and outcome data discussed below.

Because this review of evaluation methods grew out of a project focusing upon reproductive health, many of the examples and materials developed are related to adolescent sexual activity, contraceptive use, and pregnancy. However, most methods described in the monograph can and should be used more generally to measure other process and outcome goals of clinics.

In sum, clinic educators, practitioners, administrators, and researchers should all find this monograph useful when designing a research and evaluation plan for their clinics and for identifying refined and tested methods to conduct their research activities.

I. Introduction

The Increasing Importance of School-Based Clinics and Their Evaluation

Health clinics located in schools or on school campuses represent an increasingly important health delivery system. Many health professionals view school-based clinics as a promising approach to improving adolescent health care and to reducing important adolescent risk-taking behaviors, particularly those leading to teenage pregnancy, substance abuse, violence, and depression. Consequently, there has been a rapid growth in these clinics--about every two years the number of clinics has doubled--and by the beginning of 1990 there were more than 150 clinics in junior and senior high schools throughout the country. In addition there are many more clinics that are school-linked clinics which serve students in schools, but are physically located across the street, or nearby.

Evaluation of school-based clinics is necessary because program planners need accurate information on the health needs of the students, the ability of their clinics to provide needed health services, the impact of these services, and the ways to improve those services. Evaluation is also necessary for funding agencies who need evidence that their money is well spent, and by policy-makers and planners who need to know whether specific programs meet the needs of students and have the desired outcomes.

Although local and nationwide evaluations of school-based clinics have been and are being conducted, many questions remain unanswered. There is not a single student need nor a single clinic model; rather student needs differ from one community to another, and clinic personnel, services, and procedures also differ. In addition, it is difficult to evaluate clinics, and past and current evaluations, like any evaluation, have had their limitations. Thus, additional evaluations of specific clinics are needed.

There is an additional reason to evaluate clinics. The actual process of participating in an evaluation is commonly helpful; it facilitates the more careful delineation of program goals and more realistic expectations for program success.

Types of Evaluation

There are three types of evaluation that are potentially useful to school-based clinics: needs assessments, process evaluations, and impact evaluations. These are summarized in Figure 1.

Needs assessments. Typically, needs assessments collect data to answer questions about what student needs are not being met, what health problems, health behaviors and risk-taking behaviors should be addressed, whether a school-based clinic is needed, which services are most critical, and how members of the school or the community feel about having a school-based clinics. Typical questions include: What percentage of students are severely depressed? What percentage engage in unprotected sexual behavior? What percentage use drugs? What percentage do not receive needed medical care? Is it difficult for parents/guardians to take them to needed care? What services do the parents believe the clinic should provide?

Because these are questions that arise during the design of a clinic, needs assessments should logically be conducted either before a clinic opens or during the first year of operation. However, even after a clinic has been open for several years, it may be useful to conduct a new

needs assessment to determine whether student needs have changed and whether the clinic or other community services are meeting those needs.

Process evaluations. Process evaluations assess the extent to which clinic services are actually being provided to students. They monitor the success of day-to-day program operations. They address such questions as: How many students are enrolled in the clinic? How many actually use the clinic? Which services do they typically receive? Does utilization differ by gender or poverty status? What kinds of health and psychosocial problems are diagnosed? Do the clinics have high appointment compliance rates? Does the clinic provide high quality care? Does it provide health care in a cost effective manner?

This type of evaluation is necessarily conducted after the clinic has begun operation. However, process evaluations can be more complete and valid if they are designed during the planning stages of the clinic. Otherwise process data that should be collected during the first year of operation might be lost, or alternatively needed statistics may have to be subsequently culled from clinic records in a time-consuming manner.

Impact evaluations. Outcome or impact evaluations are conducted to determine the effectiveness of clinic programs in producing specified desired outcomes. For example, they address questions such as: Have the students received more health care than they would otherwise have received? Has the duration of time since they received needed dental care decreased? Did the clinic programs reduce depression or other psycho-social problems? Did they improve adolescents' eating or exercise habits? Did they reduce unprotected sexual activity or substance abuse? Did they improve absenteeism and dropout rates?

Impact evaluations can only be conducted after clinics have opened. Normally, they should not be conducted until programs specifically designed to address particular goals have been well developed and implemented and have served many students. Often this takes three or more years of clinic operation. However, it is important to collect baseline data before a clinic opens, and thus impact evaluations are more useful when designed before a clinic opens.

Whereas virtually all clinics should employ some methods of assessing student needs and measuring clinic services, clinics should approach impact evaluations far more cautiously. On the one hand, impact evaluations can answer critical questions about the ability of programs to produce desired changes. On the other hand, some impact evaluations may require methodological expertise and substantial funding and can be difficult and time consuming. They may require the cooperation of many people, such as the clinic staff, the school administration, and the students in the school, and the results may be disappointing, either because they are inconclusive or because they indicate the clinic is not as successful as believed. Of course, not all impact evaluations require major efforts or resources, but clinics deciding to participate in impact evaluations should be aware of these considerations before making a commitment to participate.

Needs assessments, process evaluations, and impact evaluations are not mutually exclusive; indeed, they may be reinforcing. For example, student survey data collected for a needs assessment may be used as baseline data in an impact evaluation. Similarly, the number of students served in a particular health area may help determine what type of experimental design to use in an impact evaluation, and certainly, process data can help explain why clinic programs do or do not have desired impacts.

Once the type of evaluation is determined, then decisions need to be made about the research questions to be asked, the variables to be measured, the study design, the target populations, and the sources of data to be collected. Possible alternatives are summarized in Figure 1.

The organization of this monograph approximates that framework. First, this monograph discusses principles and considerations that apply to all three types of evaluation. Then there are sections on needs assessments, process evaluations, and impact evaluations. Topics such as sampling, outcome measures, school surveys, and birth rate data which apply primarily to impact evaluations and to a lesser extent to needs assessments are discussed following the section on impact evaluation.

Figure 1

TYPE OF EVALUATION	NEEDS ASSESSMENTS	PROCESS EVALUATION	IMPACT EVALUATION
PURPOSE	To assist program development by identifying and demonstrating student needs	To monitor and assess program services	To evaluate the impact and effectiveness of programs
VARIABLES TO BE MEASURED	Needs of students	Clinic utilization, compliance, user satisfaction	Improvement in healthful behavior; decrease in risk-taking behaviors
STUDY DESIGN	Cross-sectional	Cross-sectional, time-series	Experimental, quasi-experimental
TARGET POPULATION	Students, parents, school personnel	Clinic users	Clinic users, all students
SOURCE OF DATA	Student surveys, parent surveys, community statistics	Clinic records, user surveys, student surveys, parent surveys	Clinic records, student surveys, school records, public records

II. Methodological Issues Relevant to All School-Based Clinic Evaluation

Evaluating Health Clinics in a School Setting

Although it is common to evaluate educational programs in a school environment, it is far less common to evaluate health clinics in a school environment. Doing so provides special opportunities for research that do not occur when health clinics are evaluated in the broader community. In particular, most school-based clinics have a reasonably small, well-defined, and specific target population--namely, the students in the schools. All the members of the target population are identified by name, and thus these names can be checked against other lists of names, and rates or other statistics can be determined. And to make matters still more conducive to research, nearly all the members of the target population of school-based clinics are regularly brought together in one convenient location--namely the school, where information can be collected from them through surveys or other means. In addition, other institutions, such as the school itself, already collect useful aggregate information on the students (e.g., absenteeism and dropout rates). These characteristics of school settings can facilitate needs assessments, process evaluations, and impact evaluations.

On the other hand, the school setting may also make it more difficult to collect certain kinds of data (e.g., data on sexual activity or drug use), may require that additional types of consent be obtained, and may make it more difficult to employ certain types of study designs such as experimental designs. These issues are more fully discussed below.

Two Important Methodological Principles

Collecting multiple kinds of data with multiple methods. When conducting research on school-based clinics, it is important to collect and analyze more than one type of data. Every method of collecting data has its own flaws and sources of error. Data collection methods that are quite different are likely to have different sources of error. Consequently, if an evaluator collects two or more types of data and they support conflicting conclusions, then the evaluator knows that one or more of the data collection methods contains misleading errors. On the other hand, if two or more different types of data support the same conclusion, then the evaluator can have greater confidence in that conclusion than if that conclusion were based upon only one type of data.

This general principle has several implications. It suggests that when conducting needs assessments, it may be useful to estimate student needs both with student surveys and with community statistics on health behaviors. It suggests that surveying both students and their parents is useful. When conducting process evaluations, data should ideally be collected from clinic records, from student or parent surveys, and from interviews with students. When conducting impact evaluations, outcome data should be integrated with process data and different types of outcome data should be collected.

An example involving substance abuse or teenage pregnancy may help illustrate this. For the needs assessment, a school-wide survey can provide estimates of the number (or percentage) of students who use drugs or have sex. These data can be compared with community reports on adolescent substance abuse (possibly from the police department) and with community statistics on

teenage pregnancy or birth rates (perhaps from the health department). For the process evaluation, clinic records can provide data on the number of students participating in any type of substance abuse or reproductive health program. These can be compared with data from school surveys on clinic utilization. By comparing the data from the needs assessments showing how many students need to participate in substance abuse or reproductive health programs with data from the process evaluation showing how many students actually participated, it is possible to determine the extent to which the clinic is meeting the students' needs in these areas. If many of the students in need are being served, then conducting an impact evaluation may be appropriate. For the impact evaluation, a second survey of students can be conducted and it can be examined to determine whether the number of students using drugs or having unprotected sex has decreased. These results can also be compared with public records to determine if the number of students arrested for using drugs has decreased or if the school birth rate has declined. Thus, by collecting and integrating different kinds of data, a fuller, more accurate picture of the clinic can be created.

However, evaluators should not allow their use of multiple methods and multiple types of data to lull them into complacency about the quality of the data being collected. Collecting several kinds of data poorly is not necessarily better than collecting one kind of data rigorously. This is especially true if several types of poor data collection methods are insufficiently sensitive to detect a clinic's actual impact and would therefore lead to the erroneous conclusion that the clinic had no impact.

Collecting comparison data. Much evaluation is based upon comparisons. For example, in a needs assessment, data showing that 30% of the students had not seen a medical doctor for two years or that 12% got pregnant the previous year become more meaningful statistics when they are compared with statistics for local, state, or national populations. In a process evaluation, knowing that 50% of the students are enrolled and that the clinic had 1,500 encounters becomes more meaningful when these data are compared with figures for other school clinics or other health clinics. Finally, in an impact evaluation, comparison data are an especially critical component of any type of experimental design; without such data, conclusions cannot be reached about the impact of clinics. Knowing that 30% of the sexually active males used condoms the last time they had sex is not meaningful unless it is also known whether this represented an increase or decrease and whether this increase was greater than the national or community-wide increase.

Important Steps in an Evaluation

The steps below are commonly completed during a needs assessment, a process evaluation or an impact evaluation (adapted from Brindis, Korenbrot and Brown, 1986):

1. Identify important evaluation questions; select important needs to be measured or important goals and objectives to be evaluated.
2. Identify potential data resources and constraints.
3. Select the study design.
4. Select the methods of collecting data.
5. Select a sampling plan.
6. Develop and test data collection methods.
7. Collect data.
8. Analyze data.
9. Report findings.

The order of these steps is not invariant; sometimes it is more useful to complete some of the design steps simultaneously or in a different order.

Getting Started--Some First Steps

There are a number of steps that can facilitate the implementation of an evaluation.

Get help. Depending upon both the evaluation skills that the evaluators already have and the desired scope of the evaluation, there are different types of help that can be obtained. Anyone planning to do research on clinics should contact those who are already doing research on clinics or on similar programs. From these researchers, it is possible to obtain sample clinic encounter forms, needs assessments, other survey questionnaires, summaries of possible evaluation methods, and summaries of previous research. And, of course, it is possible to learn from their successes and mistakes.

There are also relevant conferences that one can attend. These include conferences with sessions on school-based clinics (e.g., those sponsored by the Center for Population Options or by the American Public Health Association), those on adolescence (e.g., the Society for Research on Adolescence), and those on evaluation more generally (e.g., the American Evaluation Society). All of them discuss relevant evaluation issues.

If there is limited funding, then a nearby university may be contacted where faculty members or graduate students may be willing to lend expertise and play either a minor or major role in the evaluation.

Finally, there are helpful materials to read on evaluation. Two particularly helpful resources are *Evaluation of Pregnancy Prevention Programs in the School Context* by Laurie Zabin and Marilyn Hirsch and *Evaluating Programs Aimed at Preventing Teenage Pregnancies* by Josefina Card.

Plan the evaluation and program simultaneously. As suggested above, if possible, plan the needs assessment, the methods for collecting process data, and the design of the impact evaluation (if there will be one) at the same time that you plan the clinic itself. Too often, professionals implementing clinics focus primarily upon the innumerable difficulties in opening a clinic and therefore pay little attention to evaluation. Unfortunately, this shortsightedness may have negative consequences for the impact evaluation, because once the clinic is open, it may no longer be possible to collect baseline data unaffected by the clinic's presence, to use certain experimental designs, or to collect important clinic data.

Recognize the social context of evaluating school-based clinics. Although there are many valid reasons for evaluating school-based clinics, it should also be recognized that school-based clinics are scrutinized more than many other health programs. This is partly because they represent a relatively new form of health care delivery and partly because many school-based health clinics address adolescent sexuality and operate in a highly politicized environment.

Furthermore, the reporting of some previous results may have produced unrealistic expectations for the impact of clinics upon adolescent risk-taking behaviors. After all, most research demonstrates that it is difficult to change adolescent risk-taking behavior, especially sexual behavior. Furthermore, school-based clinics attempt to address these difficult-to-change behaviors with a broad range of services addressing a broad range of needs. And they commonly do so in communities where many services may already exist for adolescents and others. Thus, it seems unreasonable to expect that additional services provided through school-based clinics will cause substantial decreases in behaviors such as skipping school, cigarette smoking, substance abuse and unprotected sexual intercourse.

This has implications for the methods selected to evaluate clinics; it also has implications for the expectations that people should have for the results of the evaluation. Neither clinic personnel nor the larger community should expect to find dramatic changes in behavior. If there are unreasonable expectations, then those expectations should be made more realistic before the evaluation is undertaken and its results reported.

III. Conducting Needs Assessments

Although this monograph focuses primarily upon evaluating the impact of school-based clinic programs, needs assessments are useful for any planned or newly opened program. These assessments can assist program managers to determine more accurately the health services that should be provided or emphasized in the clinic. These data can also provide to the broader community or to potential funders documentation of the need to provide specific services. Furthermore, as has been noted above, some types of needs assessment data can also be used to assess whether clinics are meeting student needs and having an impact upon them.

Data on the health needs of students can be collected from a variety of different sources: students, their parents, school personnel, other health providers in the clinic, and public records.

Probably the single best method of collecting data about student health needs is to conduct a survey of all (or a representative sample of) the students in the school. The survey questionnaire should include questions on a variety of health areas, for example, existing access to health services, existence of health insurance, use of health services when needed, health problems or concerns, mental health problems such as depression or stress, health behaviors such as nutrition and exercise, and risk-taking behaviors such as unprotected sex or substance abuse. They should also include sufficient background or demographic information to identify which groups of students are most in need (e.g., information about gender, age, ethnicity, or poverty status). An example of such a questionnaire is included in the Appendix A. Methods of administering this needs assessment questionnaire to the students are discussed below in the section on "Sources and Types of Data for Needs Assessments and Impact Evaluations."

Although parents have less information about student needs in some areas (e.g., risk-taking behaviors), they have more knowledge of other types of information (e.g., availability of health insurance and ease of taking their adolescent to health care providers). Thus, a survey of all parents (or a representative sample of parents) may usefully supplement the student survey. If parent surveys are to be reasonably representative, they need to be mailed directly to parents or guardians rather than sent home with the students. A cover letter from the principal emphasizing the the importance of the survey and a self-addressed, stamped return envelope should be enclosed.

These survey data can be supplemented with school and community data. These often have the advantage that they have already been collected and may be relatively easy to obtain. School personnel can normally provide statistics on absenteeism and dropout rates. Sometimes, they can provide either insights or hard data on the prevalence of fights on campus, drug use on campus, pregnancies, and other health-related behaviors.

Finally, various community agencies can often provide data on the use (and non-use) of community health agencies by adolescents, on pregnancy or birth rates and on other health problems of youth. For a fuller discussion of these statistics and how to use them to justify the need for a clinic and to design a clinic, see *School-Based Health Clinics: A Guide to Implementing Programs* by Hadley, Lovick, and Kirby.

IV. Conducting a Process Evaluation

The primary goal of school-based clinics is to provide health care to young people. Thus, it is very important to conduct process evaluations of school-based clinics to determine how many students use the clinics, how often they use the clinic, for what health purposes, etc. Beyond these basic utilization questions, process evaluation can be done to determine appointment compliance, student satisfaction, cost effectiveness and effectiveness of clinic operations. These kinds of questions can be answered with a process evaluation which focuses upon the participation in a program rather than the needs of the students or the impact of the program on them.

Process data are also important as a first step in an outcome evaluation. They can determine how many students use a particular service or participate in a particular program. If only a few people participate, then the program may not have a measurable impact, at least not upon the entire school. Thus, the process evaluation can determine whether it is worthwhile to conduct an outcome evaluation, and if so, how.

Clinic Utilization

Most clinics can and do provide evidence for clinic utilization by summarizing the clinic's visits and encounters. They do this by keeping some written or computerized record of each visit or encounter with each patient. These records can be tallied by hand or preferably by a computer and the resulting frequencies reported.

At a minimum, visit or encounter forms should include the patient's ID number (to distinguish between duplicated and unduplicated visits) and information about each encounter (e.g., purpose of visit, and type of staff person seen). Additional information is also useful. (See the CPO SCMIS System for an example.)

When counting visits or encounters, it is important to distinguish between the number of duplicated and unduplicated visits, so that different questions can be answered: How many different students used the clinic? How many visits did students make to the clinic? On the average, how many times did each student use the clinic?

By including the purpose of the visit on the encounter form, the number of visits for different purposes can be determined. The same is true for diagnoses. Some diagnoses, such as sexual abuse or severe medical problems, can be very important, even if there are only small numbers of them. Others may be important for identifying students to participate in an outcome evaluation.

Commonly it is also useful to provide breakdowns by age, year in school, sex, existence of family insurance, type of visit, and other characteristics of the students or the visit. Then, these frequencies can answer obvious, but important, questions such as: How many males (and females) visited the clinic for sports physicals? How many females (or males) used the clinic for family planning? How many freshmen used the clinic? How many seniors? How many were without other sources of medical care or without any form of insurance?

In order to produce these breakdowns, this information about age, gender, year in school, etc., must either be provided on each encounter form, or alternatively be provided on a registration form which is linked by identification number to each visit or encounter. The latter option necessitates the use of a computerized system.

By simply dividing the numbers of students seen in the clinic by the appropriate number of students in the school, it is also possible to answer questions such as: What percentage of the males (or females) use the clinic? What percentage of females (or males) use it for family planning?

Most schools can provide data on the number of students enrolled. However, in many schools, the enrollment figures (which are used in the denominators in some of the percentages above) decline substantially during the year and the number of students officially enrolled may significantly exceed the number of students who actually attend school. Thus, selecting the correct enrollment number may be difficult. Zabin and Hirsch (1988) provide a good discussion of this problem.

The number of students receiving specific services can also be compared with the number of students needing that service as determined by a school survey or needs assessment. For example, if a school has 1,000 female students, if the needs assessment indicates that 50% of them are currently sexually active, and if the clinic provides services to 300 of them, then it can be estimated that the clinic is providing family planning services to 300 out of 500 or 60% of the sexually active females. Similarly, estimates can be provided for the proportion of students using drugs who are given drug counseling, the proportion of students without recent physical exams who are given such exams, or the proportion of students with specific health concerns who attend the clinic for those health concerns.

An important goal of some clinics is to reach those students who are especially high risk for health and other problems. The methods described above can assess the extent to which the clinic is reaching students engaging in specific risk-taking behaviors.

By collecting these kinds of data each year, it is easy to produce trend data and to determine whether these numbers or percentages are increasing as rapidly as expected over time.

Although counts of patients, visits or encounters and percentages based upon them may appear simple and easy to collect, agreement does need to be reached on several definitions. First, it is important to define rather precisely what constitutes an encounter. Otherwise, ambiguity can arise in determining exactly how much interaction or what kinds of interaction must take place in order to count an interaction as an encounter. For example, if a student discusses her diet for 15 minutes with a nutritionist, this interaction would clearly count as an encounter. On the other hand, if that same girl tells the nutritionist in passing that her diet is going well, that interaction would not constitute an encounter. Clearly there is pressure to count minimal interactions as encounters, because doing so increases the apparent clinic activity. However, doing so is misleading. An appropriate rule of thumb is that if an encounter is sufficiently important to write something in that student's health record, then that encounter should be counted; otherwise it should not.

A similar problem arises when a student sees more than one person during the same clinic visit. In general, it is wise to follow the BCHS regulations which stipulate that only those staff persons who make <u>independent</u> decisions regarding a patient should be counted on the encounter form. For example, if a student sees a nurse-practitioner about family planning and a nutritionist about her diet and they made independent decisions about use of birth control pills and her diet, this would count as one visit and two encounters. On the other hand, if the same student first visited the nurse-practitioner for family planning and then the health educator for more information on family planning, this would count as both one visit and one encounter.

<u>The CPO School-Based Clinic Management Information System</u>. The Center for Population Options has developed a comprehensive SBC management information system. It is

available free of charge from CPO. This system answers the kinds of questions identified above plus many more. It includes both data collection forms and software for processing and analyzing encounter data.

Only three forms (a registration form, standard visit form, and case closing form) are required to use the system. These three forms can produce about 50 tables of data. In addition, six optional forms allow the collection of additional data and the creation of additional tables.

The software is designed to operate on IBM compatible micro-computers and is written in dBase III-Plus, a popular software language that can be revised by sites if needed. The software is a menu-driven system that is easy for people without micro-computer experience to learn and use. The tables produce statistics on the major purposes of visits, diagnoses made, types of medical procedures and counseling services provided, types of external referrals made, staff utilization patterns, and a wide variety of other useful summary data. Appendix B contains a fuller description of the SCMIS system and a list of the questions that the system can answer.

Though clinic records are most often used to evaluate clinic utilization, other methods can be used as well. School-wide surveys can provide estimates of the percentage of the school enrollment served and the reasons for clinic visits. Focus groups can provide more qualitative information on students' perceptions of clinic operations.

Appointment Compliance Rates

Appointment compliance rates are important because high appointment compliance may be critical to providing proper care, and partly because school-based clinics may have especially high compliance rates. After all, the location of these clinics does make it is easy for the students to go to the clinic and for the clinic to contact the students in the classroom and remind them of upcoming or missed appointments.

Some clinics have reported examples of high appointment compliance, for example, in one school-based clinic, all the pregnant teenage girls going to term returned for all their prenatal care visits and in another clinic, all the students with positive STD tests returned for a final checkup.

These compliance rates are easy to measure, for the rates are based upon whether patients returned to the clinic when appropriate, and this information can be found in the clinic records or encounter logs.

However, there may be difficulties in defining compliance. For example, should an appointment be treated as a missed appointment if the student is 15 minutes late? A day late? A week late? Should a prenatal care regimen be considered complete if the student initially misses one or more appointments, is reminded each time, and then comes eventually for the required number of prenatal visits? If a student is scheduled for a clinic visit to refill birth control pills, but the student does not come for the appointment because she has stopped having sex, is this considered a missed visit? Or is the visit removed from the analysis entirely?

These questions represent only a small portion of the questions and issues that arise and they cannot be resolved in this brief overview. However, at a minimum, evaluators should try to select reasonable definitions and criteria and then describe precisely how compliance rates were calculated.

Other types of compliance rates are those based upon patient compliance with recommended treatments or behaviors outside the clinic. Examples include: compliance in taking iron if anemic,

compliance in reducing activity when asthma attacks are imminent, compliance in reducing the intake of fats or junk food, and compliance in taking birth control pills. Analysis of this type of compliance is usually considered part of an impact evaluation (as opposed to a process evaluation) and thus it is discussed in the impact evaluation section below.

Student Satisfaction

Student satisfaction with both the clinic and procedures to use the clinic may significantly affect their utilization of the clinic. Thus, assessing that satisfaction may be very useful for clinic planning.

There are at least four different ways to measure student satisfaction. These methods can be used singly or in combination.

First, someone who understands school-based clinic issues and questions and who has rapport with youth can interview students in the school. During these interviews, this person should follow a broad interview outline developed previously with the clinic staff.

Second, this same interviewer or clinic staff can conduct focus groups with students and discuss some of the same issues covered in the interview outline above. Focus groups enable some students to speak more freely as they hear other students expressing their views; they also enable students to react to comments made by other students. They are especially good for generating ideas. On the other hand, because focus groups are not confidential or anonymous, they should definitely not be used to elicit personal information about individual behaviors.

Third, a brief visit assessment can be administered to students as they complete each clinic visit. The assessment can include scales measuring satisfaction with different aspects of the visit, as well as open-ended questions asking for suggestions or concerns. These assessments can provide quick anonymous feedback from clinic users, but, of course, they do not provide information about those students who do not use the clinic.

Finally, questionnaires can be administered to all students in the school (or a representative sample thereof). These questionnaires can ask students whether they have ever used the clinic, what services they have used, their reasons for using or not using the clinic, their satisfaction with the clinic, whether they would recommend the clinic to their peers, and their suggestions for increasing their use of the clinic. Such questions may give the most accurate picture of student satisfaction. (Examples of these questions are in the Student Health Survey in Appendix A.)

Quality of Care

The quality of clinic care can be assessed through site visits by health care providers or other professionals experienced with school-based clinic operations who are not directly involved with the clinic being evaluated. Site visits can provide more qualitative information than clinic records or surveys. Visiting professionals may have a more objective view of the clinic's operations and may identify strengths or difficulties with the clinic that clinic staff may not recognize or may not express during normal clinic operations.

Prior to making the site visit, the site monitoring team should review a variety of written materials, for example, the written goals and objectives, the organizational structure, and the

budgets. During the site visit, the team should meet with clinic administrators and staff individually. If possible they should also observe clinic operations.

Although the site visit is a less structured form of assessment, it is still useful to have some sort of guide or checklist for the site team to follow. An example of such a guide is the "Reproductive Health and Pregnancy Prevention Inventory" in Appendix C that was developed as part of CPO's evaluation project. That guide can be used in site visits to other school-based clinics.

In addition, the process used to create that guide can be used to create other guides for other clinic programs or service components. Several steps should be completed to create such a guide:

- o identify potentially important characteristics;
- o have other experts familiar with the programmatic area add or revise the initial list;
- o organize these characteristics in a logical manner;
- o have outside experts rate the importance of each characteristic on a 1 to 10 (or 1 to 5) scale; and
- o calculate the mean scores for each item.

Sometimes these guides can then be used to calculate an overall numerical score for a particular program; more commonly they suggest programmatic areas that need to be implemented or improved.

Costs

By simply dividing the clinic's costs for a given time period by the number of encounters for that time period, it is possible to estimate the cost per encounter of that clinic. Such estimates are important because school-based clinics may provide services more cost-effectively than other health providers because of the school-based clinics' location and specialization in adolescent concerns.

Once again, this seemingly easy task is not as easy as it might appear, because estimating the true costs of clinics accurately is often difficult. Total costs should include reasonable estimates for 1) overhead (even if that overhead occurs in another hospital or department of health); 2) the space, utilities, and maintenance of the clinic space (even if that is provided by the school); and 3) in-kind services (even if those are provided by other departments or agencies). It is easy to forget such costs, and there are, of course, pressures to ignore them, but cost analyses must include these costs in order to be complete (though they should be separable, so that monetary can be identified if necessary).

School-based clinic staff often spend considerable time doing outreach in the schools. For example, they may perform educational functions such as giving presentations in health education or sexuality education classes, or organizing school-wide health fairs or assemblies. It is difficult to incorporate these activities when estimating the costs per encounter of clinics. On the one hand, ignoring all these activities unfairly increases the apparent cost per encounter. On the other hand, counting all the students reached during these group activities unfairly increases the apparent number of visits and reduces the cost per encounter. Thus, it may be most accurate simply to treat group activities separately--both to describe them separately and to estimate their costs separately.

Estimates of the cost/encounter are only meaningful when compared with the cost/encounter estimates of other service providers nearby. These comparisons should be made with caution and

should recognize differences in the populations served, quality of care, type of care, and other factors that might significantly affect the cost/encounter estimates of one or more of the providers. For example, school-based clinics serving adolescents may need to spend a greater amount of time with each patient than would clinics serving older adults who are more knowledgeable. School-based clinics may also spend more time providing counseling for psycho-social problems. Such counseling may be very important, but it is also very time consuming and can substantially increase the cost per visit.

For additional information on doing cost-effectiveness or cost-benefit analyses, see Levin's *Cost-Effectiveness: A Primer*. For a thorough analysis of the costs of reproductive services of a school-linked clinic, see Zabin's article, "The Baltimore Pregnancy Prevention Program for Urban Teenagers: How Much Did It Cost?"

V. Conducting an Impact Evaluation

Impact evaluations are very important, because the goals of many school-based clinics reflect many goals of society: to improve the receipt of health care by adolescents, to improve adolescent health habits, and to reduce their risk-taking behaviors. These are particularly important, given that most of the morbidity and mortality of adolescents are caused by risk-taking behaviors, not by disease.

The Challenge of Evaluating the Impact

Although important, evaluating the impact of school-based clinics is not an easy task. There are several characteristics of clinics that make this task more challenging.

First, clinics are holistic--they recognize the wide range of youths' needs and they provide a wide array of services, but rarely do they provide large numbers or percentages of students with any particular service. Thus, clinics may have an important impact upon a small group of students in one health area and an important impact upon a different group of students in a different health area, but they are less likely to have a large impact upon a large number of students in any specific area.

Second, most clinics employ a medical model--they focus upon the provision of health care to those students who seek them. Typically, they are not funded or staffed to serve all students or to reach out to a randomly selected group of students. Thus, evaluation results are likely to reflect self-selection factors.

Third, the target population is commonly defined as the students in the school (or a portion of them), and some or many of them may obtain health care elsewhere. Thus, the evaluation can only examine the impact of school-based clinics by assessing the incremental impact of providing additional services in school-based clinics as opposed to providing whatever services already exist in the community.

Fourth, the fact that the target population consists of students in a school setting raises a variety of ethical and administrative issues. At the very least, it makes it more difficult to use experimental research designs and it means that research protocols must be approved by the appropriate school authorities.

Fifth, because students are influenced by a very wide range of factors in our society, it is difficult for a school-based clinic to have a very dramatic impact upon participants. Thus, effects are more likely to be small and more difficult to measure.

Selecting the Goals or Criteria for Evaluation

The impact evaluation should evaluate the important goals of the clinic. It is neither fair nor meaningful to measure the impact of clinics upon outcomes that do not reflect important clinic objectives. These goals should also be realistic and should take into consideration the challenges discussed above. It is probably not worth the considerable effort of evaluating the impact of a program unless there are sufficient resources devoted to the program, the program includes the important components necessary to create an impact, a sufficient number of students participate in the program, the outcome behavior is amenable to change, and more generally, there is a reasonable chance of finding a measurable impact. Finally, the goals should be reasonably specific and well defined. "Improving overall health" is too general to evaluate rigorously.

The number of goals that should be evaluated may depend partly upon the magnitude of the study. A small study may measure the impact of a clinic program upon only one goal. For example, it is fully appropriate to measure the impact of a weight reduction program upon the weights of program participants only. On the other hand, larger, more comprehensive evaluations of clinics should recognize that clinics provide a wide range of services, and these evaluations should not focus solely upon any single goal such as weight reduction.

The experience of past research on school-based clinics suggests that it is better to try to measure the impact of <u>all</u> the programmatic components on any one outcome criterion than to try to measure the independent effect of individual components. In other words, "all the eggs should be put in one basket." This is simply because individual components are not likely to have a measurable impact; that is why clinics develop multiple components in the first place.

When conducting an impact evaluation, it is also important to measure dosage or exposure; one visit in a clinic program may not have an impact, while ten visits might.

Study Design: Selecting the Focus of the Clinic Evaluation

A critical question in determining the design of the evaluation is whether to evaluate the impact of a clinic program upon the entire student body or only upon those students who actually participated in that program. There are good reasons for doing either or both.
The entire school may be considered the appropriate focus for several reasons:

- One justification for locating clinics on school campuses is that they have the potential for reaching all (or nearly all) of the students.
- When the clinic's programmatic goals are articulated in proposals for funding or implementation, many of those goals are stated in terms of the entire student population or all the students in need. Less often are they stated in terms of only those students who participate in particular clinic programs.
- Many clinic educational and outreach efforts are directed toward the entire student body, not toward a selected few students in the clinic.
- The clinics employ a holistic approach to health care and risk-taking behavior. Such an approach assumes or recognizes that some clinic programs may target a particular outcome, but other programs may also have an impact on that desired outcome.

On the other hand, there is also a very good reason for evaluating the clinic's impact upon only the program's participants:

- Partly because the clinics provide a wide range of health services and have only limited staff, they typically serve only small percentages of students in the school for any particular health problem. Thus, attempting to measure the impact of a program upon the relatively small proportion of the student body who participated in the program by measuring the impact upon the entire student body will greatly dilute the measured impact and possibly obscure it.

An example will illustrate this. If 30 overweight students participated in a weight reduction program, if all of them were weighed before and after the program, and if fifteen of them lost 10 pounds, then the loss of weight among all 30 students would probably be measurable (and undoubtedly statistically significant) and the program would appropriately be considered effective. On the other hand, if all the students in the school were weighed before and after the program (even though only thirty participated in the program), then the loss of weight would probably not be measurable (or significant) and the program would not be considered effective.

In this particular example, it is clear that conducting both types of evaluation may be desirable. The evaluation of the 30 students would indicate that the program was effective among many of those that participated, while the evaluation of the entire student body would indicate that the program did not serve a sufficiently large percentage of the students to have an impact upon the entire student body.

More generally, it probably is ideal to measure the impact of the programs upon both the participants and upon the entire student body. Unfortunately, it is difficult to do either, and it is especially difficult to do both. If the impact upon only the participants is measured, then the resulting report should make clear that only the known proportion of the student body participated in the program and that the program had a much smaller impact upon the entire school.

Some schools have a very high transfer or dropout rate, for example, more than half of the students who are in school during the beginning of one academic year are not there the following academic year. When there is such a high turnover, it is difficult to measure the impact of the clinic upon the entire student body; it is generally more valid to measure the impact upon only those students who use the clinic several times.

The sections below discuss different designs for evaluating the impact upon participants only and upon the entire student body.

Experimental and Quasi-Experimental Designs

The best methodological design for assessing the impact of any program or treatment upon the participants in that program is the classical experimental design. It includes three basic steps: 1) randomly assigning subjects to the experimental and control groups; 2) administering the program or treatment to the experimental group; and 3) collecting post program data on all the subjects and comparing the two groups.

Random assignment should not be confused with haphazard assignment. In random assignment, all participants in the study have an equal preassigned chance of being in the experimental or control groups. Random assignment is critically important because it eliminates the possibility of self-selection.

Self-selection can be a major problem in clinic evaluation research. For example, students who decide to participate in a weight reduction program may have a much greater motivation to lose weight and thus a higher probability of losing weight than non-participants. Similarly, students who come to a clinic for birth control may be far more motivated to avoid pregnancy and to use birth control than students who do not come to the clinic for birth control.

Not only are these self-selection factors important, they may also operate in unexpected and unknown ways. For example, in one large school, sexually active students who had used the clinic for birth control were more likely to have used birth control recently and also more likely to have been pregnant than sexually active students who had not used the clinic for birth control. The reason for this unexpected finding is NOT that getting birth control from the clinic increased their risk of pregnancy. Rather, teens who had previously been pregnant and were still in school were more likely to want to avoid a second pregnancy and were subsequently more likely to obtain birth control from the clinic. That is, prior pregnancy led to the use of birth control from the clinic and obscured the fact that use of birth control from the clinic may have reduced subsequent pregnancy. To eliminate problems of this type, self-selection effects must be prevented. The random assignment in the classical experimental design is the most rigorous way to eliminate self-selection effects.

There are also other valid experimental designs that eliminate self-selection effects, and there are quasi-experimental designs which are typically easier to implement but less valid. These are well described in the classic text on this subject, *Experimental and Quasi-Experimental Designs for Research* by Campbell and Stanley.

This monograph will focus upon several recommended designs. None of them is optimal, but they represent the best compromises between administrative feasibility and ability to produce valid evidence for the impact of the programs.

Measuring the Clinic Impact Upon Program Participants

Design 1: A classical experimental design. In theory, at least, it is possible to use a true experimental design to evaluate the impact of a particular clinic program. For example, if a school has a substantial number of overweight students and introduces a nutrition and exercise program, it may be feasible to identify overweight students in the school, randomly select half of them to participate in the program and then compare over time the weights of those both in and not in the program.

In the area of sexuality, there are at least two ways this classical experimental design can be used. The first design measures the effectiveness of an outreach effort, while the second measures the impact of a clinic program.

Example 1:

i) Students (or classes of students) in the school are randomly assigned to experimental and control groups.
ii) A special educational or outreach program is implemented among the students (or classes of students) in the experimental group.
iii) Outcome measures (e.g., clinic utilization or use of birth control) are subsequently measured with clinic records or questionnaires administered in the classroom.

Example 2:

i) Sexually active students are identified during health maintenance exams in the clinic and are then randomly assigned to the experimental or control groups.
ii) Members of the experimental group are then strongly encouraged to participate in an intensive clinic program that includes counseling, information on birth control, the provision of birth control, and rigorous followup.
iii) Data on sexual activity, use of birth control, and pregnancy are subsequently obtained from interviews in the clinic or from questionnaires.

Although these classical experimental designs can produce valid evidence for the effectiveness of the programs, they raise important ethical and administrative questions and therefore they are difficult to implement for several reasons. What happens to students in the control groups who want to participate in the program or who want services? What happens if members of the experimental group do not want to participate in the program or their parents do not want them to participate?

Some people believe that it is ethically wrong to involve students in such experiments. Certainly, many school administrators and parents do not want "experiments being done on our kids." Similarly, many clinic practitioners and others are strongly opposed to denying clinic services to students in the control groups who seek such services.

Unfortunately, there are no easy answers or solutions to these concerns. However, some of these concerns can be partially alleviated or countered in several ways:

- First, students assigned to the control group can be placed on a "waiting list" and then transferred to the treatment group after needed data are collected.

- Second, the evaluation can be conducted during a limited time period, such as the first year of the program only. After that time period, all students can participate.

- Third, if students in the experimental group participate in a pregnancy prevention program, then students assigned to the control groups can be allowed to participate in a drug prevention program (or some other type of program) which is beneficial, but is not likely to have an impact upon pregnancy prevention.

- Fourth, if resources and staffing are limited (and they normally are), then it can be recognized that not all students can participate anyway. Thus, the principle of randomness instead of the principle of "first-come, first-serve" determines who participates in the program. This principle is not necessarily counter to our values of equality of opportunity.

- Fifth, not all students in the school need to be assigned to the experimental or control groups. Thus, a small number of high-risk students could be allowed to participate in the clinic program regardless of their being in the experimental or control group. In order to maintain the equality of the experimental and control groups, such high-risk students can be allowed to participate in the program but during data collection, they must be excluded from both the experimental and control groups. Moreover, allowing certain categories of students to be excluded from the study can be done only on a limited basis. Otherwise, the ability to generalize from the study would be compromised.

- Finally, students in the control groups can, of course, continue to seek services from other community providers that exist independently and prior to the clinic services.

Despite these various ways to make this design more palatable, in some communities, in some clinics, and for some types of programs, it would still be unethical or administratively impossible to implement this design. On the other hand, from a methodological standpoint, it is clearly the most valid design, and when the research is important and when this design can ethically and administratively be employed, then it should be given serious consideration.

The rigor of this design would be reduced, but the administrative feasibility of the design would be enhanced if design requirements were relaxed somewhat. For example, the clinic could randomly assign students to the experimental and control groups and could rigorously recruit the members of the experimental group, while nevertheless still allowing control group students to use the clinic services if they wanted to on their own initiative. If only a small percentage of students knew of these new services and wanted to use them, the rigor of the design would not be heavily sacrificed. The measured impact of the program would be slightly reduced, but this would be a conservative bias. Of course, if a substantial percentage of students in the control group were given services, then the validity of the evaluation would be sacrificed.

The inability to assign people randomly to experimental and control groups is a common problem in evaluation research; there are two common alternative solutions. First, some researchers employ a case/control design in which they try to find control subjects who match the experimental subjects on important characteristics. Such control subjects might be the best friends of the experimental subjects or other students in the clinic who have the same background characteristics. This evaluation design may be valid in some types of outcome research, but less so wherever motivation plays a major role in the outcome. Motivation obviously plays a very important role in the use of birth control, and thus this is not likely to be a valid design for pregnancy prevention programs.

Second, sometimes researchers try to eliminate the impact of differences between groups by identifying those factors which might produce an impact, measuring them, and then statistically controlling for them. For example, when comparing students who use a clinic for birth control with students who do not, a researcher might statistically control for age, race, time since first intercourse, and prior use of birth control. This design is not recommended, however, because motivation continues to be a confounding factor.

Contamination of experimental and control groups. When experimental designs are used within school settings, there is the possibility that the clinic program will effectively change the behavior of the members of the experimental group and that they in turn will affect the behavior of the control group. For example, if counseling and birth control services in the clinic cause members of the experimental group to have unprotected sexual intercourse less frequently, then peer group norms in the school might change and members of the control group might also engage in unprotected sexual intercourse less frequently. This cross-over or contamination effect is especially likely to take place when members of the experimental group are dating or going out with members of the control group.

Although this contamination effect is a problem that should be recognized, it should not be given undue importance. Few programs have a major impact upon the experimental group and it is unlikely that a small change in the experimental group will have a significant impact upon the control group--adolescent behavior is a function of too many things and is simply too difficult to change for this to be likely to happen.

However, this potential problem can be reduced by including in the experimental program only a small proportion of the students in the school. If only a small proportion of the students participate, then the participants are especially unlikely to affect the behavior of the larger majority of students. If reducing the proportion of students that participates unduly reduces the needed sample size, then it may be possible to replicate the program in other schools, to combine the experimental groups for statistical purposes, and thereby to increase the sample size.

Following up study participants and collecting post program data. As discussed above, after students have been randomly assigned to the experimental and control groups and after those students in the experimental group have begun their participation in the program, outcome data must be collected from the experimental and control groups. When this data collection should begin and end depends upon a variety of factors, including when the program is likely to begin having the desired impact, how long that impact is likely to endure, and how feasible it is that data can be collected. As a general guideline, data collection on outcome measures should begin as soon as the program is likely to have an effect and should continue as long as that effect is likely to be maintained, assuming, of course, that it is possible to do so.

Many school-based clinic programs are designed to have an impact upon students primarily when students are actually receiving the clinic services and participating in the clinic program. In the evaluation of those programs, it is clearly important to begin collecting outcome data while the students are still participating in the program. Similarly, if a clinic begins providing family planning services or implements a procedure for more effectively tracking family planning patients, contraceptive continuation data should be collected while the students are receiving those family planning services.

Other clinic programs are designed to have an impact upon students primarily after completion of the program. For example, outreach efforts or educational programs in the classroom may be designed to affect subsequent knowledge, attitudes, or behaviors and those outcomes should be measured after the outreach or educational interventions are completed.

Many outcomes should be measured not just once, but periodically for months or even a year or two after participation in the program. However, again this varies with the outcome. Some programs may have short-term effects that quickly dissipate. For example, educational programs often produce prompt increases in knowledge, but students also promptly forget much of that material and the impact of educational interventions upon knowledge may not endure beyond six months and may not warrant the cost of measuring it after six months.

Other programs have effects that do not become apparent for many months and longer-term evaluations need to be conducted to evaluate these outcomes. For example, evaluations of programs to delay the initiation of sexual intercourse need to measure the program's impact for at least one year and preferably for two or more years, because relatively small percentages of students in either the treatment or control groups are likely to initiate sex each year, and the difference between those percentages is not likely to be statistically significant for one or more years. Similarly, evaluations of programs to reduce pregnancy should collect data for at least one to two years after the program, because relatively few pregnancies will occur in either the experimental or control groups in a shorter period of time.

Whenever data must be collected, the potential problem of attrition arises. This can be a problem even when data are collected during participation in the program, because some members of the experimental group may drop out of the program even before the program is completed. However, this potential problem becomes particularly severe when follow-up data must be collected for a year or more after the program. Students who cannot be reached for follow-up may differ from those who can be reached. For example, they may be more transient, less motivated, more

likely to have gotten pregnant or to have dropped out of school, or they may differ in some other way related to the outcome variable. Thus, it is important to reduce attrition as much as possible.

A widely accepted criterion is that at least 80% of the subjects originally randomly assigned to the experimental and control groups should provide outcome data whenever that data is collected. If the follow-up rate is less than 80%, then the evaluation should demonstrate that (1) those who dropped out of the study do not differ significantly from those who remained in the study or (2) the impact of attrition will affect both the experimental and control groups equally.

Following up such a high percentage of study participants can be difficult, especially if many of the participants have left the school. There are several methods of improving follow-up. First, develop a good relationship between the students and both the program and the program evaluators. Second, during the first collection of data, request from the students the names, addresses and phone numbers of three people (such as relatives) who will always know where they are. Third, contact each study participant every six months and update their address and phone numbers. Finally, pay them five dollars to complete questionnaires mailed to them.

Design 2: Quasi-experimental time-series designs. In addition to the classical experimental design, there are other less valid, but nevertheless useful, quasi-experimental designs that may be used. If the outcome measure is already being collected by the clinic, then the time-series design is particularly easy to implement. In this design, data are collected for several time intervals both before and after the implementation or change of a program.

Example 1:

i) The numbers of new patients coming to the clinic for the first time are counted for each month for a year.
ii) A new program for reaching out to students and encouraging them to use the clinic is implemented.
iii) The numbers of new patients coming to the clinic each month are counted for each month for the following year.

If there is a sudden increase in new patients after the new outreach program is implemented, this increase suggests that the program was effective.

This same design can easily be used to measure other new program elements. For example, if the interview protocols are changed so that staff automatically ask more questions about unprotected sexual activity during every visit, the increase in family planning patients can be measured; if the clinic implements a more comprehensive system for tracking family planning patients for subsequent visits, the increase in contraceptive continuation can be measured.

This design has one major weakness. The number of new patients coming to the clinic as a result of the outreach (or the increase in contraceptive continuation) must be distinguished from improvements--either gradual or sudden--that may have occurred anyway. When possible, this threat to validity should be controlled by having a comparison group. (If the control group is randomly assigned, then this design is a classical experimental design discussed above.)

Measuring Clinic Impact Upon the Entire School

Because it is normally impossible to randomly determine whether clinics are implemented in specific schools, there are no true experimental designs that can be used to measure the impact of clinics upon the entire school. However, there are two quasi-experimental designs that are

recommended for measuring the impact of the clinic upon the entire school. The design which is easier to implement is discussed first.

Design 1: A pre/post cross-sectional quasi-experimental design. In this design, data are collected from both the clinic school and the comparison school both before and after the clinic opens. In the language of Campbell and Stanley, this design is an unmatched pre/post non-equivalent control group design. For each data collection period, the data are collected either from all the students in the schools or from large (preferably random) samples of students in the schools. While this design will work with any type of data collected, usually survey data are collected. For example, a health survey could be administered to all (or most) of the students in both the clinic and comparison schools both before and after the clinic opened. When analyzing the data, changes over time in the clinic school are compared with those changes in the comparison school.

Normally, clinics see far too few students for any particular health outcome during any short period of time to have a measurable impact upon the entire school. Thus, the period of time needs to be quite long, such as two or more years. Especially in the area of reproductive health, any school clinic is not likely to have a measurable impact upon the entire school in less than two years, and because school clinics typically serve smaller numbers of students during their first years, it may be necessary to collect data for three or more years.

One methodological implication of this is that the baseline data needs to be collected one year and the post-clinic data the following years. When administering surveys in successive years, it is very important to administer them at the same time each year, preferably in the spring. If the questionnaires are not administered at the same time, then biases may result--students who attend in the fall may drop out during the year and not complete a questionnaire in the spring. If the questionnaire is administered each fall, the previous spring's seniors who were exposed to the clinic the longest period of time will have graduated and not be available to complete the questionnaire. Instead, a new class of entering freshman who have not been exposed to the clinic will complete the questionnaire. In contrast, if it is administered at the end of the spring semester, all the classes of students will have been exposed to the clinic for at least two semesters.

It should be fully recognized that this is not the typical pretest/posttest design. That is, the students who complete the baseline survey are not exactly the same students who complete the post surveys. Rather, the baseline and post surveys provide two (or more) "snapshots" of the entire school at two (or more) points in time. Nevertheless, the changes in the "snapshots" in one school over time can be compared with the changes in the other school.

The major problem with this design is that factors other than the implementation of the clinic may produce changes in the students' behavior. If the factors are community wide, then they may affect both the clinic school and the comparison school equally. If so, then the impact of that factor would be statistically controlled by comparing the change in the clinic with that in the comparison school. However, if the factors affect only the clinic school (or if a different set of factors affect only the comparison school), then the analysis may be invalid and changes (either positive or negative) may be incorrectly attributed to the clinic.

Unfortunately, there are a wide range of factors that can affect schools. First, the student population can change, particularly if the school boundaries change, a magnet school program is implemented, or the community changes. Second, the school can implement other programs which may affect outcomes (a system to automatically call parents when their children are absent, for example). Third, other programs in the community may change--a health or family planning clinic may open or close nearby. Thus, when using this design, it is important to examine as many of these alternative hypotheses as possible, before concluding that the clinic did or did not have an impact.

Frankly, it is often very difficult to administer surveys in the clinic and comparison schools both before the clinic opens and again two or more years later. Often clinics open without administering a questionnaire before the clinic opens, thereby eliminating the possibility of obtaining baseline data. If this occurs, the best remaining possibility is simply to use a maximally similar school nearby as the basis for comparison and to measure with the health survey all background variables that may be related to the outcomes variables. These background variables should then be statistically controlled with multiple regression or other appropriate statistical techniques.

Alternatively, if the survey is administered in both the clinic and comparison schools in the fall, then the ninth graders would not have used the clinic and they can be treated as baseline data. More precisely, the difference between the ninth graders and the upperclassmen in the clinic school can be compared with the corresponding difference in the comparison school.

Sometimes it is impossible to gain the approval needed to survey a nearby school without a clinic. If this occurs, the post-clinic survey in the clinic school should simply be compared with the pre-clinic survey. In this design, it is particularly important to explore other changes that took place in the schools or communities and may have affected the students behavior.

Neither of these two more limited designs is as valid as a design which includes both an experimental and control group and baseline and post data. And neither of them can measure with any certainty any small changes that the clinic programs may have had. However, both of them can provide useful information on major changes produced by the clinic, especially if multiple types of data are gathered and if important background variables are measured and statistically controlled.

Design 2: A longitudinal quasi-experimental design. In the cross-sectional design above, "snapshots" of different student populations are obtained. Sometimes it is possible to use a longitudinal design and to conduct successive surveys of the same students. In this longitudinal design, students entering the school are surveyed before they use the clinic and then annually for two or more years afterward. The changes over time in individual students in the clinic school are then compared with the changes over time in students in comparison schools. A follow-up rate (percentage of students who participate in the first wave of data collection who also participate in the second wave) of 80% at two years is necessary in order to feel confident that study findings represent changes in the population under study.

This design has the same limitation as the design above: namely, there may be many differences other than the clinic between the clinic school and the experimental school. These differences can be controlled statistically, to the extent that they are measured.

The real richness of this design is provided by treating data as confidential (instead of anonymous) and by combining data from the surveys with clinic and school data. Thus, more complete histories of each student can be created. These data can become particularly rich if in-person interviews (instead of questionnaires) are used and important topics are explored in-depth. For example, use of the clinic for birth control and subsequent use of birth control can be more fully discussed. Although it is possible to conduct in-person interviews in a pre/post cross-sectional design, the additional benefits of in-person interviews are rarely worth the additional cost in that design.

Another advantage of this design is that the tracking of students enables the researchers to interview students who dropped out of school (because of pregnancy or other reasons). This eliminates one bias of the cross-sectional design which only includes students still in school.

This longitudinal design is very difficult to implement and very costly for several reasons. First, all students in the sample must be tracked over two or more years, and tracking them is a

difficult and time consuming process. Second, the loss of anonymity typically means that parental consent must be obtained, and obtaining parental consent is very difficult school-wide. Third, to create a rich data base, personal interviews have to be conducted. They are far more time consuming that surveys in the classroom.

In sum, this design can produce very rich data, but it should only be undertaken with experienced researchers with considerable funding, and it still cannot overcome the basic limitations of quasi-experimental designs.

VI. Selecting A Sample

Samples of students (or other groups) are especially likely to be employed in needs assessments and in impact evaluations. Because many process statistics--for example, the number of patients served and the number of encounters--are based upon all students served (and not a sample of patients served), samples are less commonly selected in process evaluations. However, some process analyses such as satisfaction surveys may also employ samples.

Given a defined population of people, there are two important characteristics of any sample selected from that population--its representativeness and its size. Although both characteristics are important, it is normally more important that the sample be representative than large. That is, a small representative sample is usually better than a large non-representative sample.

Every reasonable effort should be made to select a representative sample; otherwise biases can easily enter in. An excellent method of selecting students is to use random assignment of students (or classrooms). Once a random sample of students (or classrooms) is selected, then it is important that nearly all the members of this sample actually provide the data needed.

When collecting data in the classroom, it is difficult or impossible to randomly select individual students; instead, entire classrooms can be randomly selected. However, this must be done cautiously. Especially when the number of classrooms in the school is not large, chance alone may cause there to be too many students who are in above (or below) average classes. Thus, one should select a stratified sample of classes, controlling for the general level of the classes and any other important class characteristics.

Given a representative sample, increasing sample size increases the precision of the estimate--large samples produce more precise estimates than small samples.

When conducting needs assessments, estimates usually do not have to be very precise. For example, when deciding whether or not to provide service, it usually does not make much difference whether 40% or only 35% of the students have not seen a doctor during the previous 12 months. Thus, relatively small samples of only a few hundred students may be sufficient. On the other hand, if more precise estimates are needed (for example, if it is important to know that the pregnancy rate is 9% and not 11%), then larger samples should be used.

When conducting impact evaluations, programmatic changes in behavior are likely to be small, and thus very large samples may have to be used to detect a programmatic change. That is, even if a program has a small but programmatically important impact upon the participants, that impact may not appear statistically significant and the researcher may incorrectly conclude that the program had no impact unless the sample size is large.

For example, if a school clinic successfully reduces the pregnancy rate in a school by 20% by reducing it from 20% to 16%, this should be considered a substantial success. However, that is

actually an absolute decrease of only 4% (20%-16%=4%), and in order for there to be an 80% chance of finding this 4% drop to be statistically significant at the .05 level, about 1,523 respondents need to be in the pretest sample and an equal number in the posttest sample. If fewer respondents completed the survey, the chances of finding results to be statistically significant would be even smaller, even if the program really did have such an impact.

In Table 1 are examples of approximate sample sizes required in order to have a chosen probability of finding actual changes to be statistically significant. Note that if the clinic reduces the pregnancy rate (or any other proportion) by more than 20%, then the needed sample size drops quickly.

Table 1
Examples of Approximate Sample Sizes Needed to Find Given Differences In Proportions To Be Statistically Significant[1]

Sample 1 Proportion	Sample 2 Proportion	Desired Probability of Finding Difference To Be Statistically Significant	Needed Sample Size[2]
.40	.35	.80	1535
.40	.35	.50	751
.40	.30	.80	370
.40	.30	.50	181
.40	.20	.80	83
.40	.20	.50	41
.20	.16	.80	1523
.20	.16	.50	745
.20	.15	.80	1193
.20	.15	.50	584
.20	.10	.80	210
.20	.10	.50	103

[1] All examples assume that all tests of significance are two-tailed.
[2] This is the sample size needed for each sample (e.g., each pretest and posttest sample or each experimental and control sample).

Example 1: If 40% of the males in the treatment group used a condom the last time they had sex, but only 30% of the males in the control group used a condom, 181 males would have to be included in each group in order for this difference to have a 50% chance of being statistically significant.

Example 2: If 20% of the females in a school became pregnant each year before a clinic opened and only 15% became pregnant each year after the clinic opened, 1193 females would have to be sampled before the clinic opened and another 1193 females would have to be sampled after the clinic opened in order to have an 80% chance of finding this improvement to be statistically significant.

In general it is a wise idea to estimate conservatively the likely impact of a program and to then determine the needed sample size. Jacob Cohen's book, *Statistical Power Analysis for the Behavioral Sciences*, is an excellent resource to determine needed sample size.

If the impact of a program upon the entire school is being examined, a good rule of thumb might be: If the school population is larger than 1,500, select a random sample of 1,500. If the school population is less than 1,500, administer the questionnaire to everyone.

VII. Selecting Variables to be Measured in Needs Assessments and Impact Evaluations

As has been emphasized repeatedly in this monograph, the variables to be measured should reflect the goals of the program and the evaluation questions to be answered. The section above on process evaluation already discusses what process variables should be measured and issues involving those variables. However, needs assessments and impact evaluations which rely much more upon surveys have an additional set of considerations which are discussed in this chapter.

When selecting measures for needs assessments and impact evaluations, several criteria should be employed:

- the sensitivity of the measure both to the respondents and to the broader community (e.g., it is more acceptable to ask about pregnancies than about abortions);
- the reliability and validity of the measure (e.g., students can answer questions about more recent sexual activity than about less recent sexual activity and they know more about their own use of birth control than about their partners' use of birth control);
- the probability of the event of interest occuring in the population surveyed (e.g., asking students about pregnancies is better than asking about births because having given birth is less likely than having been pregnant);
- the specificity of the measure and the sensitivity of the measure to the programmatic intervention (use of birth control is more likely to be measurably affected by a program than births, and absenteeism caused by leaving the school to go to a doctor is more likely to be affected than overall absenteeism);
- the absence of major time lags (changes in the use of birth control can be effected quickly, while changes in annual birth rates take 21 (12 plus 9) months.

(In the measurement of other health outcomes, other criteria may be important.)

When selecting outcome measures, it is extremely useful to discuss with other researchers their experiences. Often there are many idiosyncracies of different measures that do not become apparent until after the data are collected.

Table 2 lists recommended outcome measures for calculating the impact of programs upon pregnancy prevention. In Table 3 are suggested outcomes to measure in other health areas.

Table 2
Recommended Outcome Measures
In the Area of Sexual Activity

Outcome Measures

Sexual Activity
- Ever had sex
- Age of first intercourse
- Date of first intercourse[1]
- Frequency of intercourse in last four weeks

Use of Birth Control
- Ever used birth control
- Ever been to a clinic for birth control
- Date of first use of birth control pills[1]
- Use of birth control during first intercourse
- Type of birth control used during first intercourse
- Use of birth control during last intercourse
- Type of birth control used during last intercourse

Pregnancy and Pregnancy Outcome[2]
- Ever pregnant
- Number of times ever pregnant
- Resolution of last pregnancy
- Date of resolution of last pregnancy

Other Important Measures

Reasons for never having had sex
Reasons for using birth control
Reasons for not using birth control
Where contraception is most often obtained

[1] The number of months between first intercourse and first use of birth control pills can be used as an indicator of unprotected sexual activity.

[2] Equivalent questions should be included for males.

Table 3
Suggested Outcome Measures in Other Areas

Receipt of Health Care

Whether immunizations are up to date
Number of months since student had a physical exam with blood test, urine test, and blood pressure checked
Number of years since hearing and vision were checked
Number of months since student visited a dentist
Whether student did not receive health care needed during previous 12 months
Number of times doctor visited
Number of times treated at an emergency room or hospital and reasons for such use
Number of nights spent in a hospital

Health-Related Habits

Nutrition
- Frequency of eating three meals a day
- Frequency of eating proper portions of each of the food groups
- Frequency of eating "junk" food low in nutrition
- Frequency of eating fried foods
- Frequency of going on severe diets
- Frequency of intentional vomiting to reduce weight

Exercise
- Frequency of getting 20 minutes of vigorous exercise at least three times each week

Dental
- Frequency of brushing teeth
- Frequency of flossing teeth
- Frequency of visiting a dentist

Substance use
- Frequency of alcohol consumption in life
- Frequency of alcohol consumption in past month
- Number of drinks of alcohol consumed at one time
- Ever chewed tobacco
- Frequency of chewing tobacco
- Ever smoked cigarettes
- Frequency of smoking cigarettes
- Ever smoked marijuana
- Frequency of smoking marijuana
- Ever used other illegal drugs

Safety

- Frequency of wearing a helmet when riding a bicycle
- Frequency of driving too fast
- Frequency of riding in a car going too fast
- Frequency of driving while influenced by drugs or alcohol
- Frequency of being in a car with a driver influenced by drugs or alcohol
- Frequency of using seat belts while riding in a car or truck
- Frequency of riding a motorcycle
- Frequency of wearing a helmet when riding a motorcycle
- Frequency of swimming in an unsupervised area

Violence

- Frequency of carrying a knife or gun to school
- Frequency of getting in a physical fight

Sleep

- Frequency of getting adequate sleep each night

Health Status

- Self perception of health
- Frequency and severity of stress and frustration
- Frequency and severity of depression
- Frequency of thoughts about suicide
- Ever attempted to commit suicide
- Existence of any serious personal, emotional, or behavioral problems
- Number and types of health concerns
- Height/weight percentiles
- Perception of being overweight
- Perception of being underweight
- Number of days of school missed due to illness
- Ability to perform appropriate physical fitness tests

School Success/Failure

- Number of days absent from school
- Grade point average
- School plans
- Ever dropped out of school
- Ever in trouble in school

VIII. Sources and Types of Data for Needs Assessments and Impact Evaluations

There are a variety of different sources of data that can be used to identify need or to evaluate the impact of clinics: clinic records, student surveys, school records, and public records. Separately and in combination they can produce a substantial amount of evidence for the effectiveness of clinics.

Clinic Records

As discussed above, clinic records can produce a vast array of process statistics on clinic utilization. Some of this process data can be used to determine what services students received, and whether students received single services or clusters of services that have the potential for reinforcing each other. If these data for specific individuals are linked with identification numbers to outcome data, then students can be divided into those receiving no interventions, single interventions, and multiple interventions.

Clinic records can also provide extensive outcome data, for example, on contraceptive continuation. In addition, as clinic staff complete each student's medical history, they can ask the questions necessary to provide data on nearly all the measures in Table 2. (The CPO SCMIS system provides information on sexual activity, use of birth control, pregnancies and births.)

In the area of reproductive health, clinic records are best suited to providing more reliable data on contraceptive continuation. Unfortunately, there are many questions that need to be resolved before measuring contraceptive continuation. How should a patient who has probably stopped having sex be treated? Is that person removed from the analysis, counted as complying, or counted as not complying? When determining a twelve-month contraceptive continuation rate, how should a student be treated who stopped using birth control for a month, but then started to use it again? Research has demonstrated that compliance rates depend greatly upon how compliance is defined. These issues cannot be resolved in this monograph, but they are more fully discussed in "Clinic-Based Methods of Measuring Adolescent Sexual Activity, Contraceptive Continuation, and Sexual Risk-taking" by Kirby and Herz.

Health Surveys

Questionnaires can incorporate a very wide range of behavioral and health measures. For example, they can measure:

- receipt of medical care
- elapsed time since getting medical care
- use of emergency medical facilities and reasons for such use
- number of nights spent in a hospital
- depression
- safety habits
- nutritional habits
- use of drugs and alcohol
- extent of sexual activity, use of birth control, and pregnancy history

Questionnaire design. There are many texts on questionnaire design and their innumerable suggestions cannot be summarized here. Zabin and Hirsch give many useful suggestions for questionnaire construction and describe their questionnaire. In Appendix A is a recommended health survey that includes the questions needed to provide data on all the pregnancy prevention measures in Table 2 and many of the measures in Table 3.

When designing questionnaires, the reliability and validity of the questions should be given considerable attention. Reliability is the consistency with which items on the survey instrument are answered the same way when asked more than once. Research has demonstrated that most items included in the Student Health Survey in Appendix A are reliable.

The validity of a question is the degree to which it is really measuring what the researcher wants it to measure. Sometimes this is related to issues of comprehension of the items. "Incorrect" answers may be due to the respondents' misunderstanding of the question. Because many of the questions such as "How old are you?" and "If you were sick and needed medical care, where would you go?" are straightforward, face validity can be used as a criterion for determining the validity of most items.

In addition to the underreporting of certain events due to misunderstanding of the question, there may be underreporting due to the student's perception of the social desirability of the behavior in question. For example, students may underreport behavior on pregnancy, abortion, or illegal substance abuse. However, experience has indicated that when questionnaires are properly administered with assurances of anonymity, students do not substantially underreport the frequency of sexual intercourse or the use of birth control.

It is always tempting to ask too many questions in a questionnaire, because there are so many topics that researchers like to address, but the questionnaire should be limited so that students can complete it in about 30 minutes or less. Experience has demonstrated that many students are quite interested in questions about their health and sexuality and consequently are willing to complete carefully questionnaires that are longer than questionnaires on other topics.

If the number of questions that must be asked exceeds the limits of a single questionnaire, then two versions can be prepared. The two versions would have the most important questions in common, but each would have different sets of less important questions. The two versions can then be administered randomly to the students.

Many schools have special classes of students with low reading abilities; this raises the issue of whether or not to administer the survey to them. Some researchers report that students in special reading classes are able to answer questionnaires reliably, even when their teachers suggest that the questionnaires are too difficult. This experience argues for pilot testing the survey with the students in question and verifying their ability to complete it. Critically, whatever decision is made about these students should apply equally to both the experimental and control groups.

Pretesting the questionnaire. It is always wise to pretest repeatedly successive versions of the questionnaire with small groups of students representative of the school. During these pretests, students can complete the questionnaire and circle any word or question that was not completely clear to them. After the students complete the questionnaire, the researcher should discuss with them any possible changes and any questions they may not have understood. When students are paid a nominal amount of money, they are usually happy to do this.

Obtaining approval. Usually obtaining school approval is not required when conducting a process evaluation based upon clinic records, because those records are kept anyway, and analyses

of those records are considered a normal part of clinic operation. However, when needs assessments or impact evaluations require the collection of additional data through student surveys, then approval from the appropriate school authorities is necessary.

Different communities and different administrators have very different standards for approval, and, of course, who should provide the approval depends at least partly upon the content of the questionnaire. Almost always, the approval of the principal must be obtained. Sometimes, but not always, it is wise also to obtain the approval of the superintendent of schools and the board of education.

Sometimes this approval is difficult to obtain, especially from the schools, because the principals may feel that they have little to gain and much to lose by the survey. For example, principals may be concerned that the evaluation activities may place an additional burden on teachers and students, that some parents may react negatively to their children participating in the survey--especially if personal and sensitive questions are asked, or that school-wide statistics on various risk-taking behaviors may paint their school in a negative light and diminish its positive reputation.

To gain the cooperation of the school, the value of the survey to the school--the fact that the study will help improve the clinic and thereby improve the health of the students should be emphasized. And, of course, each of the principal's concerns need to be properly addressed. The following points should be emphasized as appropriate:

- The evaluation will require only limited class time--typically only one class period.
- Most students seem to enjoy and learn from the health survey. It may make them more conscious of their risk-taking behaviors that they should address.
- Parents will be properly notified, and if they do not want their children to participate, those children will not participate.
- All data will be anonymous (or confidential if identification numbers are being used).
- School-wide data will not be publicly released without the approval of the school, and if the school does not grant such approval, then the school will not be identified in professional publications.
- The collected data will be used for planning and improving the program to meet the identified needs of the students.
- Similar research has been conducted in many other schools throughout the country without detriment to the school.

In addition, the researcher should be prepared to make some modifications in the design of the study, the administration of the survey and the content of the survey. It is important to know what components of the study are truly critical and to be able to defend those elements in a compelling manner.

Often questions about sexual behavior trigger the greatest concern. However, if the clinic's programs place considerable emphasis upon reproductive health, then every reasonable effort should be made to include needed questions in the survey.

These questions are less likely to trigger concern if they are not the sole focus of the survey, but instead are part of a broader, more comprehensive health survey. However, if questions about sexual behavior continue to pose insurmountable problems and are not critical to the study, then they should be dropped and other portions of the health survey administered.

All parents should be notified in writing of the impending survey. The letter should describe the contents of the questionnaires accurately, emphasize the voluntary nature of the survey, discuss the procedures to be used to maintain anonymity, and provide a phone number for the parents to call if they have questions or concerns. Finally, the letter should provide some method of allowing the parents to excuse their child from taking the survey--either a phone number to call or a letter to be signed and returned to the school.

Although signed parental consent better assures parent consent and better protects the evaluation and the school from subsequent concern expressed by the parents, obtaining such signed consent is likely to distort the sampling. Undoubtedly many students will not return a signed form and thus will not be able to complete the questionnaire. These students probably differ from students who do return the signed parental consent form; thus, excluding them would introduce a bias. (In some designs, this bias is offset by the same bias in the control group, and thus may pose less of a problem.)

There are a variety of ways to improve the percentage of students providing parental consent. A most important step involves getting the teachers to recognize the importance of the survey and to make every reasonable effort to obtain consent. Several researchers have observed that when teachers really make an effort to have their students return the parental consent forms, then those forms are likely to be returned. If teachers are not motivated by the compelling nature of the study, then incentives may help. For example, they can be given stipends to be used on instructional materials in their classroom.

Incentives can also be used directly with the students, for example, they can be given small gift certificates or tickets to a school dance or game. Alternatively, classroom contests can be held--classes with the highest response rates receive prizes.

Selecting classes for the survey administration. Some of the issues involving selecting the sample of classes have already been addressed above in the section on sampling. However, there are two alternative strategies that can also guide the selection of classes and the administration of the survey.

With the preferred method, a single class (such as English) or a small set of classes that everyone in the school must take are selected. A small number of survey administrators then administer the survey to those students during all of these classes. If the number of selected classes (e.g., English classes) offered during any specific class period exceeds the number of test administrators, then the administrators can return the following day and administer the survey to the remaining classes.

This method has two major advantages. First, carefully trained and experienced survey administrators can administer it to all the students. This is important because many teachers will do an excellent job of administering the survey, but some will not, and if the survey is sensitive, both the quality of the data and the anonymity of the answers may be jeopardized. Second, this is less disruptive to the teachers and the school. The only teachers who are affected are those teaching the selected classes and all of their classes are affected equally.

This method has one disadvantage: sometimes some students are not enrolled in any of the selected classes--despite efforts to prevent this--and thus they are missed.

For the second method, the survey is administered by all teachers during their home room period. This approach has two advantages: the survey is completed simultaneously throughout the entire school and is over quickly; and students are not missed because they all have homerooms.

Of course, the disadvantages are that some of the teachers will not do a good job of administering the survey and if homeroom is combined with another class period, that class may get one day behind.

Administering the questionnaires. If absenteeism is a significant problem in a school, then the survey should be administered on Tuesdays, Wednesdays, or Thursdays when students are less likely to be absent. Obviously, the survey should never be administered during a day or during class periods when some other special event will prevent students from completing the survey or from completing it accurately. If many students fail to complete the survey because of absenteeism, then, if possible, it should be administered to those students on subsequent days. This is especially important if absent students differ from other students.

Survey administrators must address conflicting goals. On the one hand, they need to collect reliable valid data from all or nearly all the selected students. On the other hand, if the questionnaire has any sensitive and personal questions, survey administrators need to maintain the voluntary nature of the survey and the anonymity of responses to any sensitive questions. For example, it could be quite emotionally harmful to some teenage girls if others found out that they were sexually active or had been pregnant. Everything within reason must be done to assure the anonymity of responses. At a minimum, survey administrators should:

- Seat students so that it is maximally difficult for them to see each other's questionnaires.
- Explain to students the importance of the study and the steps being taken to assure anonymity.
- Emphasize to students that completing the questionnaire is voluntary.
- Hand out scratch paper to cover up answers.
- Hand out pencils with identical lead so that the color of ink will not identify respondents.
- Hand out and collect questionnaires individually, so that students do not walk around and so that all questionnaires are collected.
- Mix up the questionnaires so that no one will know whose questionnaire is on top or bottom.

Coding the data. The questionnaires are, of course, self-reports. Although most students complete most questions honestly, an unknown number of students may intentionally distort their answers, and some may make honest mistakes. All questionnaires should be examined for such distortions, and those that are clearly invalid should be excluded from the analysis. Records should be kept of the number of invalid questionnaires and separate analyses or reviews of them should be completed if there are many.

After data are coded and keypunched, they need to be statistically analyzed. Statistical methods are outside the purview of this monograph; in addition there are already innumerable books on statistics. If the evaluators are not familiar with the statistics appropriate for their analysis, then they should obtain assistance from a nearby university with such expertise.

Using computers to collect data from students. Another method of conducting a survey either for a needs assessment or possibly for an impact evaluation includes the use of computers and computer software. Computer programs can be written which ask each student all the needed questions sequentially. The computers and their software are placed strategically in classrooms or elsewhere where students can complete the computer survey.

This method has several advantages: computers represent an exciting medium for many students and may thereby motivate them to complete the survey; the computer program can easily

be designed to skip unnecessary questions (e.g., if a student has never had sex, there is no need to ask questions about the use of birth control); all the answers are automatically recorded in a data file, thereby eliminating the need for coding and keypunching; and the computer program can provide useful information tailored to each student (e.g., those behaviors posing the greatest risk and sources of consultation or help).

On the other hand, using computers also poses several problems: programming the computer is more difficult than writing a questionnaire; the number of computers available will normally be limited and thus not all students in each class can complete the survey at the same time; often it is difficult to have a random sample of students complete surveys on the computer, and finally, computers may intimidate some students.

School Records

Absenteeism and dropout rates. Schools usually know the number of students who are absent each day and also the percentage of days missed during the entire year. Many, but not all schools, also know the number of students who have dropped out. Dropout rates, however, should be compared with caution, for they often vary greatly from one month to another, generally increasing during the spring, and different schools have different procedures for counting dropouts.

Occasionally schools have estimates of the number of girls who dropped out because of pregnancy, but these estimates are very unreliable, underestimating the true number of pregnancies.

Sometimes schools do have accurate information on the number of girls that transferred to a special school for pregnant girls. Because these data have already been collected, it is tempting, and sometimes useful to observe trends in these data over time. Specifically, it may be useful to determine whether these trends demonstrate a relative decline after the clinic opens.

If pregnancy rates are estimated from the school survey and if a significant number of girls did not complete the survey because they had been transferred to a special school for pregnant students, then they should also be given the questionnaire to complete and their pregnancies should be counted as part of the school pregnancy rate.

Public Health Records (Merged with School Records)

Over the years many researchers have tried to estimate the pregnancy rates of high schools from public records, but have had little success. Estimates based upon pregnancy rates in census tracts have proven to be unreliable, because there is no information about the proportion of the pregnancies that occurred among girls who had previously graduated from high school, who had dropped out of school, who lived outside the school boundaries, or who attended another school for some other reason. There is, however, a reliable method of measuring the birth rate of females in school.

Birth rates and low-weight birth rates. By comparing lists of female students enrolled in a school with community birth records, it is commonly possible to produce rather accurate annual birth rates and low-weight birth rates for the school. Most schools can provide lists of female students enrolled for many past years. Either hospitals, departments of health, or other city or state agencies house the birth records.

The institutions which house the birth records may properly be concerned about maintaining the confidentiality of the birth records. If so, the evaluator can simply pay that institution to complete the protocol itself, and to provide only the annual rates. This maintains the confidentiality of the birth records. The feasibility of this method has been demonstrated by researchers who have effectively employed it in several cities throughout the country.

If the number of birth certificates is very large, then the matching should be completed by computer. Such matching is not flawless: when the number of names is large, more than one girl may have the same name, the same girl may use slightly different versions of the same name (e.g., initials instead of full name), or the birth certificate may contain a married name while the school records use the maiden name. On the other hand, the number of these errors appears to be rather small, and critically, they tend to be random errors which are less likely to produce any systematic bias.

If the number of birth certificates is small (less than a few thousand), then it is probably easier and more accurate to do the matching by hand.

The exact protocol to follow when matching names will vary with the community and the form in which the data are kept. However, because the birth records are usually not in alphabetical order, but the school's lists of names usually are in alphabetical order, the following system works well:

Task I:

1. Proceed through the birth records.
2. Check whether the mother was 19 or younger when pregnant. If not, return to step 1.
3. Check whether the mother lived in the appropriate geographic area. If not, return to step 1.
4. Check the mother's name against the alphabetical list of students' names. If the name is not there, return to step 1.
5. If the name is there, check whether the mother's age on the birth record is consistent with the mother's date of birth from the school record. Also check other background characteristics believed to be accurate (e.g., race). If they do not match, return to step 1.
6. If the name and demographic data match, check whether the estimated date of conception overlaps with the school enrollment period. If it does not overlap, return to step 1.
7. If it does overlap, then write the date of birth and the weight of the infant beside the name.

Task II:

1. For each academic year, count the number of girls who conceived while in school that year. For each year, also count the number of low birth weight infants. If desired, create breakdowns for each grade (freshmen, sophomore, etc.). Because seniors have higher birth rates than students in the lower grades, either 1) define the academic year as ending May 31, and beginning June 1, or 2) define the academic year as September 1, through August 31, and remove all conceptions occurring among seniors after they graduated.

A major advantage of this birth rate methodology is that it can be completed long after the clinic has opened. All that is necessary is that the schools have a copy of all the female students that were enrolled each semester. Schools usually keep such records for many years. And, of course, birth records are kept indefinitely.

Once the birth rates for each year have been calculated, graphs should be created demonstrating the trends over time. If the graphs indicate that the birth rates began to decline more rapidly after the clinic opened (allowing for the gestation period), then the data should be statistically analyzed.

Although few researchers have analyzed these birth rates rigorously, past experience demonstrates that birth rates vary considerably from year to year, and unless the clinic dramatically reduces the birth rates, it is difficult to separate the effects of the clinic from the normal random variation in the birth rates. Furthermore, it is important to calculate birth rates for several years (at least five) before and after the clinic opens.

Other annual rates. In theory, this procedure will work with any health outcome or health condition for which all the names of the people having that condition are centrally located. In practice, only birth records are usually located in one or a small number of facilities. However, if one or a small number of health departments have complete records on cases of STD, then this same procedure may work there. Or, if there are only a small number of hospitals that students might attend, then their records could be examined for annual changes in hospitalization rates for the student population.

IX. Reporting the Results

The results of valid process and impact evaluations should always be reported to the community and to other professionals regardless of whether those results are positive or negative. Obviously, if only positive results are reported, then health professionals will have a biased understanding of the effectiveness of school-based clinics. In the long run, such biases do not help youth, and helping youth should be the ultimate goal of school-based clinics.

Before making research results public, they should be discussed with the clinic administrators and alternative explanations for the findings should be explored and the release of the findings should be coordinated with concerned parties.

Regardless of whether results are positive or negative, the limitations of research should be stated clearly. In the real world of research and evaluation, nearly all studies have limitations that should be recognized by others when they subsequently design health programs or research.

The reports should describe the way the programs function, the services they provide, staffing patterns, barriers to implementation, and other topics describing the clinic.

When reporting the results of impact evaluations, other points should also be made, if they are true in any particular case, and especially if the results do not indicate a measurable and positive impact upon behavior:

- The amount of health care provided by the clinics is substantial.
- The value of this care should be fully recognized, even if students might have received services elsewhere had the clinic not existed.
- Changing adolescent risk-taking behavior is very difficult and any improvements constitute real success.
- School-based clinics represent a rather limited intervention and should not be expected to have a dramatic impact upon adolescent behavior.
- The clinics evaluated undoubtedly have a variety of positive effects on selected individuals that cannot be measured with most research and statistical techniques.

X. Summary

This monograph describes three basic types of evaluation research that can be used to evaluate school-based clinics. In addition, various means of collecting data for each of these types was described and discussed in the specific context of school-based clinics. In the following paragraphs, the most important points in the monograph are highlighted.

The most useful evaluations are those in which more than one kind of data is collected. Needs assessments can help clinics identify the critical needs of the students and then design programs to meet those needs. Once those programs are implemented, it is important to know that students used the clinics for particular services and it is even more important to know that those services had the desired impact.

With student surveys, parent surveys, or community data, student needs can be identified. With the CPO SCMIS system or other encounter forms it is relatively easy to collect process data on clinic utilization. Student satisfaction with the clinic can also be easily measured and site visits by other professionals can help identify areas of strength and areas needing improvement in the quality of care provided.

It is more difficult to measure outcomes. This is particularly true because 1) the clinics typically serve relatively small proportions of the students for any particular health outcome and 2) the students who choose to go to the clinic differ in many ways from those who do not. Thus, diffusion and self-selection are major problems.

The traditional solution for this problem is to use an experimental design and to measure the impact of the clinic upon the participants. Such designs should be used whenever possible, and more generally, research studies should focus upon the impact of the clinic upon those students who are actually served by the clinic, and not upon the entire student population.

These experimental designs need to be combined with large sample sizes; only then will the modest behavioral changes produced by clinics become statistically significant.

There are also good reasons to try to measure the impact upon the entire school--after all, they are the focus of the clinics. Since it is not always possible to measure that impact with true experimental designs, quasi-experimental designs are the second-best alternative. If implemented with care, these designs can detect substantial changes produced by the clinics. However, they are not likely to measure accurately small changes.

The best method of measuring the impact of the clinic upon the entire student body is to collect survey data from all the students in the school or merge lists of student names with birth records or other public records. Rates can then be compared over time or between clinic and maximally similar comparison schools.

It may be unrealistic to expect that clinics will have an impact upon the health outcomes of all the students in the school, many of whom are not served in the clinic. It may be more prudent and fair to clinics to plan specific evaluations of particular programs and the participants within them.

On a final note, if the methods discussed herein are employed properly, they can help clinics identify more accurately students needs, improve their clinic services, and provide more accurate documentation for the effectiveness of those services.

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Appendix A: Student Health Survey

This survey is being done to help us understand what health services are most needed by the students of this school. We need to know several things about your health and your health care. Only you can really tell us about these.

Filling out this questionnaire is up to you. You do not have to complete it, but you will help us a lot if you do.

Do NOT put your name anywhere on these pages. We want your answers to be secret. No one (not even your teacher) will know that these answers are yours.

Write your answers directly on this questionnaire. Do NOT put them on a separate sheet of paper.

Your answers are important. Please answer each question carefully and honestly.

Thank You

1. Are you: __male __female

2. In what month and year were you born? _____ 19___
   Month Year

3. What grade are you in? __ 9 __ 10 __ 11 __ 12

4. When did you first come to this high school?
   __ Fall 1983 __ Spring 1984 __ Fall 1984
   __ Spring 1985 __ Fall 1985 __ Spring 1986
   __ Fall 1986 __ Spring 1987 __ Fall 1987

5. What grade do you <u>usually</u> get in your classes? __ A __ B __ C __ D __ F

6. Are you: (CHECK ONLY ONE)
   __ Black (not Hispanic) __ White (not Hispanic)
   __ Hispanic __ Asian or Oriental
   __ American Indian __ Other_____

7. Whom do you live with now? (CHECK ALL THAT APPLY)
   __ mother __ father __ stepmother
   __ stepfather __ other family members
   __ grandmother __ grandfather __ other (not family)

8. How many people live in your house, including you? __ people

9. How far did your father go in school? (CHECK THE HIGHEST LEVEL)
   ___ did not graduate from high school
   ___ graduated from high school
   ___ went to vocational school or got other training
   ___ started college
   ___ graduated from college

10. How far did your mother go in school?
    (CHECK THE HIGHEST LEVEL)
   ___ did not graduate from high school
   ___ graduated from high school
   ___ went to vocational school
   ___ started college
   ___ graduated from college

11. Does your father or stepfather have a job?
   ___ yes (Go To Question 11a.)
   ___ no (Go To Question 12.)
   ___ I don't have a father or stepfather (Go To Question 12.)

   11a. Is his job: ___ full-time ___ part-time

12. Does your mother or stepmother have a job?
   ___ yes (Go To Question 12a.)
   ___ no (Go To Question 13.)
   ___ I don't have a mother or stepmother (Go To Question 13.)

   12a. Is her job: ___ full-time ___ part-time

13. Many families get money from other places. Does anyone in your house get money from welfare, social security, or public assistance?
   ___ yes ___ no ___ don't know

14. Does anyone in your family get food stamps?
   ___ yes ___ no ___ don't know

15. Do you get reduced-price or free lunches at school?
   ___ yes ___ no

16. What do you think you will do in the future?
   ___ quit high school
   ___ finish high school only
   ___ finish high school and go to college or get other training

17. Do you like yourself?
   ___ all the time ___ usually ___ sometimes
   ___ not very often ___ almost never

18. How healthy do you think you are?
   ___ very healthy ___ pretty healthy
   ___ not very healthy ___ not at all healthy

19. During the PAST FOUR WEEKS, how many days of school did you miss because you were sick? ___ days

20. During the PAST FOUR WEEKS, how many days have you skipped or cut school? ___ days

21. When did you LAST go to a dentist?
___ during the past 12 months
___ about 1-2 years ago
___ over 2 years ago
___ never
___ I don't remember

22. When did you LAST go to a doctor?
___ during the past 12 months
___ about 1-2 years ago
___ over 2 years ago
___ never
___ I don't remember

23. Where did you go the LAST TIME you were seen by a doctor?
___ a private doctor's office
___ a hospital clinic
___ an urgent care clinic
___ the health department
___ a hospital emergency room
___ a military clinic
___ other_____

24. Did you have to miss school the LAST TIME you saw a doctor?
___ yes (Go To Question 24a.)
___ no (Go To Question 25.)

24a. How many class periods did you miss when you went to the doctor the LAST TIME? ___ class periods

25. Did either of your parents have to leave work to take you to the doctor the LAST TIME?
___ yes ___ no

26. At any time during the LAST 12 MONTHS, were you ever sick or hurt or have some type of health problem so that you needed medical care?
___ yes (Go To Question 26a.)
___ no (Go To Question 27.)

26a. Did you always get medical care?
___ yes (Go To Question 27.)
___ no (Go To Question 26b.)

26b. Why didn't you get medical care? (CHECK ALL THAT APPLY.)

__ At the time, I didn't think I really needed to see a doctor.
__ My parents didn't think I needed to see a doctor.
__ Medical care was not available when I needed it.
__ It cost too much money.
__ I didn't know where to go.
__ I didn't have a way to get there.
__ The hours were not convenient.
__ I had to wait too long to get an appointment.
__ I didn't like the staff.
__ My visit would not be secret.
__ They didn't have a special clinic for teenagers.
__ I just didn't get around to it.
__ I was afraid.

27. During the LAST 12 MONTHS, how many times were you treated at an emergency room at a hospital? __ times

28. During the LAST 12 MONTHS, how many nights, did you stay in a hospital? __ nights

29. If you were sick and needed medical care, where would you go?

__ a private doctor's office
__ school health center
__ the health department
__ an urgent care clinic
__ a hospital clinic
__ a hospital emergency room
__ other_____
__ I don't know

30. When were you LAST TESTED for:

Hypertension? (high blood pressure)

__ during the past 12 months
__ about 1-2 years ago
__ over 2 years ago
__ never
__ I don't remember

Scoliosis? (curved spine)

__ during the past 12 months
__ about 1-2 years ago
__ over 2 years ago
__ never
__ I don't remember

Sickle cell?

__ during the past 12 months
__ about 1-2 years ago
__ over 2 years ago
__ never
__ I don't remember

Anemia? (low blood)

__ during the past 12 months
__ about 1-2 years ago
__ over 2 years ago
__ never
__ I don't remember

31. When was the LAST TIME you had:

A physical exam?

__ during the past 12 months
__ over 2 years ago
__ I don't remember
__ about 1-2 years ago
__ never

Your urine tested?

__ during the past 12 months
__ over 2 years ago
__ I don't remember
__ about 1-2 years ago
__ never

Your blood tested?

__ during the past 12 months
__ over 2 years ago
__ I don't remember
__ about 1-2 years ago
__ never

FOR FEMALES ONLY: A breast exam?

__ during the past 12 months
__ over 2 years ago
__ I don't remember
__ about 1-2 years ago
__ never

FOR FEMALES ONLY: A pelvic exam? (female exam)

__ during the past 12 months
__ over 2 years ago
__ I don't remember
__ about 1-2 years ago
__ never

32. During the LAST SCHOOL YEAR, did you ever feel that life was not worth living?

__ no __ yes, sometimes __ yes, often

33. During the LAST SCHOOL YEAR, did you have thoughts of ending your life?

__ no __ yes, sometimes __ yes, often

34. Do you have friends or relatives that you can turn to for help when something is troubling you?

__ no __ yes, sometimes __ yes, often

We would like to ask you some questions that are personal and can be difficult to answer. ALL of your answers will be kept secret.

Because we are concerned about teenage pregnancy, in this survey the words "had sex" mean that a female and a male have "made love," "done it," or "gone all the way." That is, "had sex" means that a male's penis was in a female's vagina.

35. Some teenagers have had sex and others have not. Have you ever had sex?

__ yes (Go to Question 36.)
__ no (Go To Question 53.)

36. How old were you the FIRST TIME you had sex? __ years old

37. Think about the FIRST TIME you had sex. Did you or your partner do something or use something to stop a pregnancy from happening?

__ yes (Go To Question 37a.)
__ no (Go To Question 38.)

37a. What kind of protection did you or your partner use to stop a pregnancy from happening the FIRST TIME you had sex? (CHECK ONLY ONE)

__ used a rubber (condom) WITH birth control pills
__ used a rubber (condom) WITH foam, TODAY sponge, or insert
__ used only birth control pills
__ used only a rubber
__ used only the TODAY sponge
__ used only foam or insert
__ used a diaphragm (DI-A-FRAM)
__ had sex during the safe time of the month (rhythm)
__ pulled out before sperm came out (withdrawal)
__ washed out after sex (douche)
__ other_____

38. During the LAST FOUR WEEKS, how many times did you have sex? __ times

39. When was the LAST TIME you had sex?

__ during the last 4 weeks __ 2-6 months ago
__ 7-12 months ago __ over 12 months ago
__ I don't remember

40. Think about the LAST TIME you had sex. Did you or your partner use something to stop a pregnancy from happening?

__ yes (Go To Question 40a.)
__ no (Go To Question 41.)

40a. What kind of protection did you or your partner use to stop a pregnancy from happening the LAST TIME you had sex? (CHECK ONLY ONE)

__ used a rubber (condom) WITH birth control pills
__ used a rubber (condom) WITH foam, TODAY sponge, or insert
__ used only birth control pills
__ used only a rubber
__ used only the TODAY sponge
__ used only foam or insert
__ used a diaphragm (DI-A-FRAM)
__ had sex during the safe time of the month (rhythm)
__ pulled out before sperm came out (withdrawal)
__ washed out after sex (douche)
__ other_____

40b. Where did you or your partner get something to stop a pregnancy from happening the LAST TIME you had sex?
(CHECK ONLY ONE)
__ a family planning clinic
__ the health department
__ a hospital clinic
__ a military clinic
__ a private doctor
__ a drug store
__ a friend or relative
__ other_____
__ I don't know (my partner got the protection)
__ does not apply (pulled out, washed out, or had sex during the safe time of the month)

41. If you have a regular or special place where you go to get protection, where do you usually go?
(CHECK ONLY ONE.)
__ a family planning clinic
__ the health department
__ a hospital clinic
__ a military clinic
__ a private doctor
__ a drug store
__ a friend or relative
__ other_____
__ I don't have a special place

42. Have you EVER used birth control protection when you had sex?
__ yes (Go To Question 43.)
__ no (Go To Question 44.)

43. Please CHECK below ALL the reasons why you have used birth control protection.
__ I did not want to get pregnant/ get my girlfriend pregnant.
__ I did not want to get a disease.
__ I did not want to get AIDS.
__ My friends use protection and told me to use it.
__ A friend gave me protection to use.
__ My girl/boyfriend wanted us to use protection.
__ My mother told me to use protection.
__ My father told me to use protection.
__ Someone at a clinic told me to use protection.
__ I knew that I was going to have sex and I was prepared.
__ Other reason_____.

44. Have you EVER had sex WITHOUT using birth control protection?
__ yes (Go To Question 45.)
__ no (FEMALES: Go To Question 46.) (MALES: Go To Question 49.)

45. Please CHECK below ALL the reasons why you did not use protection.

__ I didn't know about birth control protection.
__ I didn't care if I got pregnant (my partner pregnant.)
__ I wanted to get pregnant (get my partner pregnant.)
__ I just didn't think I would get pregnant (get my partner pregnant).
__ I thought I was too young (my partner was too young) to get pregnant.
__ I didn't think I had sex often enough to get pregnant (get my partner pregnant).
__ I didn't expect to have sex, it was not planned.
__ I thought it was wrong to use birth control protection.
__ I thought it was wrong to plan for sex.
__ I thought birth control was my partner's responsibility.
__ My partner didn't want me to use birth control.
__ I was waiting until I was closer to my boyfriend (my girlfriend.)
__ I thought my parents had to be told.
__ I was afraid my family would find out if I used birth control protection.
__ I thought birth control protection was dangerous to use.
__ I thought you weren't allowed to get birth control until you were older.
__ I thought birth control protection cost too much.
__ I didn't know where to go to get birth control protection.
__ It was too hard to get all the way to a clinic to get birth control protection.
__ I felt uncomfortable going to a strange clinic.
__ I was afraid to be examined.
__ I thought birth control protection would reduce the pleasure of sex.
__ I thought birth control protection would be messy to use.
__ I just didn't get around to it.
__ Other (What?_____)

THE FOLLOWING QUESTIONS ARE FOR FEMALES ONLY.
MALES SHOULD GO TO QUESTION 49.

46. Have you EVER gone to a health clinic to get birth control protection?

__ yes __ no

47. How many times, if ever, have you been pregnant?

__ never (Go to Question 51.)
__ one time (Go to Question 48.)
__ two or more times (Go to Question 48.)

48. The LAST time you were pregnant, what did you do?

I am (NUMBER)_____ months pregnant now.
I had a baby in (MONTH) _____ 19__.
I had an abortion in (MONTH) _____ 19__.
I had a miscarriage in (MONTH) _____ 19__.

THE FOLLOWING QUESTIONS ARE FOR MALES ONLY
FEMALES SHOULD GO TO QUESTION 60.

49. How many times, if ever, have you gotten someone pregnant?
__ never (Go to Question 51.)
__ one time (Go to Question 50.)
__ two or more times (Go to Question 50.)
__ I don't know

50. The LAST time you got someone pregnant, what did she do?
She is (NUMBER)_____ months pregnant now.
She had a baby in (MONTH) _____ 19__.
She had an abortion in (MONTH) _____ 19___.
She had a miscarriage in (MONTH) _____ 19___.
__ I don't know what she did.

51. Have you ever had VD (a sexually transmitted disease)?
__ yes (Go To Question 51a.)
__ no (Go To Question 54.)

51a. What types? (CHECK ALL THAT APPLY.)
__ trick (trichomoniasis)
__ clap (gonorrhea)
__ NGU (chlamydia)
__ yeast infection
__ herpes
__ crabs
__ other_____
__ I don't know the name(s)

51b. Where did you get treatment?
__ a private doctor
__ a VD clinic
__ the health department
__ a hospital clinic
__ a military clinic
__ other_____
__ I did not get treatment

52. Have you had VD (a sexually transmitted disease) during the past 12 months?
__ yes (Go To Question 54.)
__ no (Go To Question 54.)

53. If you have NEVER had sex (made love, done it), please CHECK ALL the reasons why you have not:
__ I think it is wrong to have sex before marriage.
__ My church says it is wrong to have sex before marriage.
__ I am not ready to have sex.
__ I am waiting for the right person to do it with.
__ I am waiting until I get married.
__ I am waiting until I am older.
__ I do not want to get pregnant/or get someone pregnant.

___ I do not want to get a disease.
___ I do not want to get AIDS.
___ My friends think it is wrong to have sex at our age.
___ My parents would be upset if I had sex and they found out.
___ I would be embarrassed to have sex.
___ I do not have a boy/girlfriend to have sex with.
___ I do not know where to get protection to use.
___ I would be embarrassed to use protection.
___ I do not have enough money to buy protection.
___ I think using protection would make me sick or mess up my body.
___ Other reason_____.

54. CHECK ALL of the things below that you have questions or concerns about:

___ how much you weigh
___ how tall or short you are
___ your skin (rash, acne)
___ your eyes (vision)
___ your ears (hearing)
___ your nose
___ your teeth
___ your legs (cramping)
___ VD
___ AIDS
___ sex (making love, doing it)
___ using birth control
___ being pregnant
___ getting someone pregnant
___ being gay (homosexual)
___ sexually playing with yourself
___ rape
___ the way you think
___ your ability to learn
___ having nothing to do
___ your brothers/sisters
___ not fitting in with others
___ your breathing
___ your stomach (pain, vomiting)
___ the way you look
___ your sex organs
___ your back
___ your arms
___ your chest or breasts
___ smoking
___ drugs
___ getting a job
___ going to college
___ dying
___ sexual abuse
___ monthly periods
___ wet dreams
___ dating
___ yourself
___ your friends
___ your grades
___ your parents
___ making friends
___ your teachers
___ family members who drink too much alcohol
___ not having a girlfriend or boyfriend

55. Please CHECK how often you do the things below:

	Never or or rarely	Once in a while	About once a week	Several times a week	Everyday
Brush your teeth	___	___	___	___	___
Floss your teeth	___	___	___	___	___
Eat breakfast	___	___	___	___	___
Eat fruits and vegetables	___	___	___	___	___
Eat breads, grains, and cereals	___	___	___	___	___
Drink milk or eat milk products	___	___	___	___	___
Eat meat or fish	___	___	___	___	___

	Never or or rarely	Once in a while	About once a week	Several times a week	Everyday
Eat candy or snack foods	—	—	—	—	—
Eat Fast Food (e.g., McDonald's)	—	—	—	—	—
Lose your appetite	—	—	—	—	—
Drink beer or wine	—	—	—	—	—
Drink hard liquor	—	—	—	—	—
Smoke cigarettes	—	—	—	—	—
Smoke marijuana or hash	—	—	—	—	—
Get at least 30 minutes of good exercise (sports, jogging, biking)	—	—	—	—	—
Wear seatbelts when riding in a car	—	—	—	—	—
Drive a car MORE THAN 10 miles per hour over the speed limit	—	—	—	—	—
Drive a car when you have been drinking	—	—	—	—	—
Ride in a car going MORE THAN 10 miles per hour over the speed limit	—	—	—	—	—
Ride in a car when the driver has been drinking	—	—	—	—	—
Feel depressed or sad	—	—	—	—	—
Feel angry or mad	—	—	—	—	—
Get in a physical fight with someone	—	—	—	—	—
Carry a knife or other weapon	—	—	—	—	—
Get at least 7 hours of sleep at night	—	—	—	—	—
Have a hard time going to sleep at night	—	—	—	—	—

56. We would like to hear what you think about your school having a school health center. Please write down any comments, good or bad, you have about the school health center.

THANKS VERY MUCH FOR FILLING OUT THIS QUESTIONNAIRE.

NOTE: THE FOLLOWING QUESTIONS SHOULD BE ADDED TO THE VERSION OF THE STUDENT HEALTH SURVEY WHICH IS ADMINISTERED TO THE STUDENTS AFTER THE CLINIC HAS OPENED.

Now we would like to ask you a few questions about your school clinic.

1. Have you ever been to the school clinic for ANY reason?
   ___ yes (Go To Question 2.)
   ___ no (Go To Question 9.)

2. How many times have you EVER been to the school clinic for ANY reason? ____ times

3. How many times have you been to the school clinic since school started this year? ____ times

4. Which services have you used at the school clinic?
   (CHECK ALL THAT YOU HAVE USED.)
   ___ counseling (talked to someone about health or personal problems)
   ___ physical exam for school/sports
   ___ first aid for a small injury
   ___ emergency treatment for a big injury
   ___ care for sickness (sore throat, a cough, etc.)
   ___ medicine pick up
   ___ birth control information
   ___ birth control supplies (pills or condoms)
   ___ pregnancy test
   ___ care during or after pregnancy
   ___ STD (VD) tests
   ___ shots (immunizations)
   ___ vision or hearing test
   ___ weight or nutrition education
   ___ counseling for drugs or alcohol
   ___ dental services
   ___ suggestions for help from other agencies

5. How many times, if ever, have you gone to the school clinic to get birth control protection? ____ times

6. How satisfied are you with the services you receive at the school clinic?
___ very satisfied ___ somewhat satisfied
___ somewhat unsatisfied ___ very unsatisfied

7. How comfortable do you feel at the school clinic?
___ very comfortable ___ somewhat comfortable
___ a little uncomfortable ___ very uncomfortable

8. Do you feel that your visits to the school clinic are secret?
___ yes ___ no

9. Will you keep using the school clinic in the future?
___ yes ___ no

10. Why do you use the school clinic? (CHECK ALL THAT APPLY.)

___ I feel it's a part of my school and I can trust it.
___ It's easy to get to.
___ It's the only clinic I know about.
___ It has the best hours.
___ It's the cheapest place I know about.
___ The people there really care about young people.
___ The people there don't tell my parents I come.
___ My friends go there.
___Other _____.

SKIP THE NEXT QUESTION: GO TO LAST QUESTION.

11. If you have NOT used the school clinic for any reason, why not?
(CHECK ALL THE ANSWERS THAT APPLY.)
___ My parent(s) did not sign the permission form to use the clinic.
___ I was healthy and did not need the clinic.
___ I did not need the clinic for birth control.
___ I wanted to go on with a clinic I'd been using before.
___ I didn't know about the clinic.
___ I didn't know where the clinic was.
___ I didn't like the staff at the clinic.
___ I was not comfortable there.
___ I was afraid teachers would find out.
___ I was afraid my friends would find out.
___ I was afraid my parents would find out.
___ My friends told me the clinic was not any good.
___ I thought the clinic cost too much money.
___ The clinic is too close to school.
___ The clinic is too far from where I live.
___ The clinic did not have the kind of health care that I wanted.
___ I just didn't get around to it.
___ I didn't want to miss class.
___ Other (What?_____)

12. Do you think you will use the school clinic in the future?
___ yes ___ no

13. We would like to know how you feel about the school clinic. Please write down anything you would like to tell us.

THANKS VERY MUCH FOR FILLING OUT THIS QUESTIONNAIRE.

Appendix B: The CPO School-Based Clinic Management Information System

Introduction

This document describes the management information system developed by the Center for Population Options (CPO) for school-based clinics across the country. CPO developed this system with three goals in mind: (1) to help clinic sites gather information that will facilitate good clinic management and patient care, (2) to provide a uniform data collection system so that SBCs across the country can communicate with each other and with potential funders in a straightforward, consistent way, and (3) to build a national database of summary statistics from all school-based clinics.

Given the controversy surrounding the school-based clinic movement, increasingly it will become important for SBCs to document what they do and how well they work in order to attract and maintain financial and community support. Some clinic sites have contacted CPO for information on how to develop and implement management information systems. Other sites need technical assistance to improve the management of their clinics and the preparation of statistical reports on service delivery. Consequently, CPO has developed a standardized management information system that includes both data collection forms and IBM-compatible microcomputer software for processing and analyzing encounter data.

Important Features of the Management Information System

In general, the standardized management information system:

- collects background information separately from encounter information so that only subsequent new information is collected each encounter (e.g., for each encounter the patient's demographic data does NOT have to be collected);
- conforms with federal BCRR standards[1] for reporting clinic encounter data and uses ICD-9-CM codes for recording diagnoses;
- requires that only three data collection forms be used;
- permits the introduction of one or more optional forms over time as needs change (there are six such supplemental forms);

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[1]BCRR definitions for encounters and users (taken from the *Instruction Manual for the BCHS Common Reporting Requirements*, revised January 1982): (a) ENCOUNTERS - A face-to-face contact between a user and a provider of health care services who exercises independent judgement in the provision of health services to the individual patient. For a health service to be defined as an encounter, the provision of the health service must be recorded in the patient's record. (b) USER - An individual who has had one or more encounters during a specified reporting period.

- o is currently written in dBase III-Plus, a popular software language that can be revised by sites if needed;
- o is a menu-driven system that is easy for people without microcomputer experience to learn and use;
- o can generate approximately 100 pre-programmed statistical tables on clinic services and user characteristics (nearly one-half of these tables can be produced using only the three required forms);
- o is designed for IBM-compatible microcomputers with 640K and a 20 megabyte hard disk[2] and an Epson compatible printer; and
- o can be tailored to each site, when appropriate, to reflect the particular needs of that site while maintaining a standardized format.

Benefits to Sites in Using This System

School-based clinics that utilize CPO's management information system will realize a wide variety of tangible benefits:

- o Use of the system will facilitate good patient care and provide the information necessary to improve clinic efficiency. The process of form completion encourages clinic staff to consistently probe patients for important health-related information that should promote the delivery of comprehensive services.
- o The system is capable of producing pre-programmed tables that will help clinic managers allocate staff and financial resources in needed areas to improve clinic services and patient outcomes. Such tables include statistics on:
  - the major purposes of visits,
  - diagnoses made,
  - types of medical procedures and counseling services provided,
  - types of external referrals made,
  - staff utilization patterns, and
  - a wide variety of other useful summary data.
- o The statistical reports can also be used to document the success of the clinic in delivering a range of services to eligible students, thus building a strong case for new or continued funding.

[2]The required hard disk capacity will depend on the expected number of encounters per year at a given site.

Management Information System Services and Materials

The Management Information System has two major parts: the clinic visit forms and a specially written software program for data entry, analysis and report generation[3]. Sites that choose to use this system will receive:

- o samples of three required data collection forms[4],
- o samples of six optional forms that collect supplemental information on a wide range of clinic activities and student health (i.e., lab test and referral activity logs, specific lab test results, appointment compliance for onsite visits and for external referrals, prenatal care outcomes, health and psychosocial history, behavioral risks to health status),
- o an instruction manual for form completion,
- o a disk copy of the management information system software program,
- o an instruction manual for the software program, and
- o an annual report describing the national database findings.

Management and Research Questions that Can Be Answered With the CPO Management Information System

Questions That Can Be Answered with the Three Required Forms (The Registration Form, the Standard Visit Form, and the Case Closing Form

Identification of Specific Clinic Users

1. What are the names, clinic ID numbers, sex and birth dates of all the students registered in the clinic? What was the date of the last visit for users and what was the major purpose of that visit?

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[3]Some sites have a relatively small number of encounters per year (less than 500) and do not have access to a microcomputer. These sites can request the three basic data collection forms and a manual describing how to complete the forms. In addition, such sites will receive instructions on how to calculate important summary statistics contained in several tables for their own internal use as well as for the CPO National Database Project.

[4]These three forms include a REGISTRATION FORM that records basic demographic information on each patient; a STANDARD VISIT FORM that documents the purpose of the visit, diagnoses made, medical procedures and counseling provided, and referrals made; and a CASE CLOSING ACTIVITY LOG that provides a means to isolate active from inactive cases for statistical reporting purposes, and records why specific cases are closed.

Summary Statistics on Clinical Utilization and Diagnoses

2. How many students are registered for care in the school-based clinic each reporting period (i.e., have a completed REGISTRATION FORM)?

3. How many students utilize the school-based clinic each reporting period (i.e., have at least 1 encounter with a provider)? How many users are new users? What is the breakdown of clinic users (new and return users) by grade level, age, sex, and ethnicity?

4. How frequently do students use the school-based clinic? Do different students use the clinic more frequently (i.e., what are the breakdowns by grade level, age, sex, and ethnicity)?

5. How many visits are there for each purpose of visit (as defined by the student and the medical provider)? How do these purposes differ according to grade level, age, sex, and ethnicity? What are the purposes of students' first visit?

6. What types of counseling and health procedures are provided? How do the numbers of counseling encounters and health procedures differ by grade level, age, sex, and ethnicity?

7. Which specific laboratory tests are performed in the school-based clinic? How many of each type are performed?

8. What health and psychosocial problems are diagnosed? How many users are diagnosed with each health and psychological problem? What are the number of visits for each type of diagnosis? What is the breakdown of users with different diagnoses by grade level, age, sex, and ethnicity? (Diagnoses will be based on ICD-9-CM codes.)

9. What types of referrals are made to other agencies?

10. What is the number and percentage of visits that are scheduled vs. walk-ins?

11. When are students seen in the school-based clinic? What is the breakdown by month, day of week, and time of day?

12. On the average, how many encounters do different types of staff members have each reporting period? What is the average number of encounters per visit?

13. How many cases are closed each reporting period? What are the reasons for closing cases? How many closed cases are referred elsewhere for care?

Summary Statistics on Student Health Characteristics and Outcomes[5]

14. Weight control: Among students attending the clinic, what is the prevalence of obesity? What is the prevalence of underweight students? What is the number and percentage of under- and over-weight students visiting the clinic for weight management? What percent of underweight students are diagnosed as anorexic? What percent of overweight students are diagnosed as obese? What weight change occurs over time in students participating in weight management programs?[6]

15. Blood pressure: Among students using the clinic, what is the number and percent with abnormal blood pressure?

16. STD Prevention: Among students attending the clinic, what is the prevalence of STDs? What is the breakdown by grade level, age, sex, and ethnicity?

17. Pregnancy Prevention: What percent of clinic users have received contraceptive prescriptions and/or supplies in the clinic? What percent are referred to other sites for pregnancy prevention services? What percent of female clinic users are identified as pregnant by ICD-9-CM code? What is the breakdown of pregnant students by grade level, age, and ethnicity? What percent of pregnant students have a repeat pregnancy?

18. Mental Health: What percent of students are diagnosed as depressed or having adjustment problems? What percent of students receive counseling or therapy at the clinic or are referred for counseling or therapy?

<u>Additional Questions That Can Be Answered with the Personal Health Survey - Part C, an Optional Form</u>

Identification of Clinic Users and Specific Students for Intervention and/or Follow-Up

1. Which students report symptoms of depression or adjustment problems? Which students report they have engaged in certain risk-taking behaviors, for example, unprotected intercourse, smoking, drinking, or using drugs?

Summary Statistics on Student Health Characteristics and Outcomes (see footnote #5)

2. Prior medical care use: Among students using the clinic, how much time has elapsed since they received medical and dental care prior to survey administration?

3. Absenteeism: Among students using the clinic, how many days of school did they miss due to illness during the semester prior to survey administration?

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[5]Whether or not the questions listed in this subsection can and should be answered depends upon the services offered by the clinic. Some of the questions are not appropriate for some clinics. Other clinics may not wish to collect systematically the information needed to answer these questions.

[6]This visit form/software system will provide some of the raw data needed to answer this question, but additional work will need to be done by hand or via special software programming. It is likely that someone with a research background will be needed to conduct these special analyses.

4. Immunization Compliance: At survey administration, what percent of students have complete immunizations according to the state and AAP standards for school attendance?

5. Pregnancy Prevention: At survey administration, what percent of students have ever had sexual intercourse? Among those who have never had sex, what are their reasons for delaying intercourse? What percent of clinic users used a contraceptive method the last time they had intercourse? Among those using a method at last intercourse, what method did they use? If no method was used at last intercourse, what were the reasons for non-use? How many students report they have had an STD, and what types of STDs have they had? How many females and males report they have been pregnant (or gotten someone pregnant) and what were the outcomes of those pregnancies? Overall, what is the parenting status of students?

6. Substance Use: Among students attending the clinic, what percent provide indications that they are smoking, using drugs or drinking excessively? What is the breakdown by grade level, age, sex, and ethnicity?

7. Mental Health: Among students attending the clinic, what percentage report they are frequently nervous or depressed, or report other signs of mental distress?

Additional Questions That Can Be Answered with the Visit Form Update, an Optional Form

Identification of Clinic Users and Specific Students for Intervention and/or Follow-Up

1. Which students are not completely immunized? (Note: In order to address this question, both the Visit Form Update and the Personal Health Survey - Part C must be used.)

Summary Statistics on Diagnoses and Follow-Up

2. What percentage of the results for specific types of lab tests are normal versus abnormal or positive versus negative?

3. What percentage of first appointments to external referral agencies are kept? What percentage of missed first appointments are rescheduled? What percentage of rescheduled first appointments are kept?

4. Among students referred for contraceptive supplies, what proportion get those supplies?

Summary Statistics on Student Health Characteristics and Outcomes (see footnote #1)

5. Immunization Compliance: Among students who were not completely immunized at administration of the Personal Health Survey - Part C, what percent have complete immunizations according to the state standards for school attendance as a result of clinic intervention? (Note: In order to address this question, both the Visit Form Update and the Personal Health Survey - Part C must be used.)

Additional Questions That Can Be Answered with the Daily Activity Log, an Optional Form

Summary Statistics on Appointment Compliance

1. What is the rate of compliance for scheduled appointments? What are the compliance rates for different types of appointments (e.g., STD care, prenatal care, drug abuse, family problems)?

2. How are appointment compliance rates affected by grade level, age, sex, and ethnicity?

Additional Questions That Can Be Answered with the Prenatal Care and Delivery Data Form, an Optional Form

1. Among students attending the clinic, what percentage of pregnant students receive prenatal care onsite? What percentage are referred offsite? How many previous pregnancies have new mothers had? How many months elapse between conception and pregnancy diagnosis? How many weeks elapse before prenatal care is initiated? How many prenatal visits are completed before birth? What percent of infants have a lo birth weight and/or are premature? What percent of mothers and infants have prenatal and intrapartum complications? What percent of student mothers return to school after birth? What is the breakdown of mothers who return and do not return to school by primary caretaker status?

For more information about the CPO Management Information System or the National Database Project, please contact:

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Appendix C: Methods for Assessing A Clinic's Pregnancy Prevention Program

Background

To assess the views of clinic practitioners on important characteristics we completed several tasks. First, we reviewed the family planning literature, talked with family planning professionals and researchers in the field, met with SBC clinic staff, and developed an initial list of potentially important characteristics of SBC pregnancy prevention programs.

Second, several SBC practitioners reviewed the list and suggested additions and changes. Most of these were incorporated, producing a list of 108 potentially important characteristics.

Third, we asked 28 SBC practitioners to rate these characteristics. Twenty-four of them did so. They included professionals working in clinics in different parts of the country and with different reproductive health policies and procedures (e.g., some that refer; some that prescribe; and some that dispense). They included staff from both larger and smaller clinics. Finally, they included clinic educators, nurse-practitioners, and administrators.

Despite the variety of clinics, clinic policies, and positions within clinics from which this sample was drawn, they all had a wealth of experience in clinics. Most of them have worked with teens on a daily basis; have seen teens' reactions to clinic staff and procedures; have observed changes in clinic utilization when clinic programs or staff changed; and have had discussions with teens about many different things. In general, this panel of 24 professionals represents an important body of experience and insight into school-based clinic operations.

The panel rated each potentially important characteristic on a 1-10 scale, from not at all important to extremely important. All items with a mean rating greater than 7.0 are included in the list below.

Directions for Assessing the Clinic

This list can best be used by clinic staff or a site visit team to assess whether or not the clinic has each of the characteristics rated important. That is, it can best be used qualitatively.

It is also possible to use this list to produce a numerical score for a clinic. The total numerical score can provide a rough indication of the overall quality of the reproductive health program. However, these numerical scores should be used cautiously, because not all of the characteristics in the list have equal weight.

To produce a numerical score:

1. Use the following scale to rate the clinic on each characteristic on the list:

   0 = The clinic does not have this characteristic.
   1 = This clinic has this characteristic to some extent, but it is not well implemented.
   2 = The clinic has this characteristics and it is well implemented.

2. Add all the scores. The maximum possible score is 190.

Reproductive Health and Pregnancy Prevention Inventory Programs

ACCESS

___ The clinic is open at least 20 hours during each week.

___ Teachers allow students to attend the clinic during school hours without hassle.

___ Students can go to the clinic during their free periods.

___ Students can go to the clinic before or after school.

___ If the clinic is not open during the summer months or other vacation periods, arrangements are made for alternative providers during these periods.

___ The clinic is open during the summer months and other vacation periods.

___ If parental consent is required for services, the clinic has an effective method in place for obtaining parental consent.

___ The clinic obtains blanket parental consent (as opposed to itemized consent) for all services, including family planning.

MEDICAL SERVICES

___ Condoms are provided at the clinic.

___ Birth control pills (or other medical methods) are prescribed at the clinic.

___ Birth control pills (or other medical methods) are dispensed at the clinic.

___ Pregnancy tests are available.

___ Pregnancy test results, both positive and negative, are given only in person.

COUNSELING SERVICES

___ Counseling is made available to all students on decisions about having sex and using birth control during routine visits as well as during reproductive health visits.

___ Abstinence and the decision to be sexually active are discussed with all new family planning clients.

___ Teens are strongly encouraged not to have sex without birth control unless they want to have a baby.

___ Minor side effects of pills (e.g., weight gain, nausea, breakthrough bleeding) are discussed with clients using or considering the use of oral contraceptives.

___ Clinic staff discuss decisions about sex in a way that does not alienate students.

___ The clinic counsels students on all legal pregnancy options, or refers students to an appropriate agency for pregnancy counseling.

___ Staff encourage students to discuss their decisions about sexuality with their parents.

___ There is counseling available for males alone.

___ There is counseling available for teen couples.

___ Parent and parent-teen counseling sessions are available.

___ Counseling is available without medical services.

___ Counselors recognize the different developmental phases of adolescence and counsel accordingly.

APPOINTMENTS

___ Students do not have to wait more than one week for a family planning appointment.

___ Students can walk in and normally be seen by someone (not necessarily a clinician) instead of having to wait up to a week.

___ Students can normally walk in and be seen for a new contraceptive visit (instead of having to wait up to a week).

___ Students can walk in and be seen for a continuing contraceptive visit (instead of having to wait up to a week).

___ Students can walk in and be seen for a pregnancy test (instead of having to wait up to a week).

___ Students are given at least 45 minutes for their first family planning visit.

PROTOCOLS

___ There are established protocols for all medical procedures that have been approved by a physician.

___ Whenever staff conduct a general health assessment on any client, questions about sexual activity and use of birth control are asked and follow-up services are provided, as appropriate.

___ Whenever reproductive health services are provided, a general health assessment is obtained, including the adolescent's own health concerns.

___ An assessment of general behavioral risk-taking is done as a part of reproductive health services.

___ Contraceptive compliance is checked at every visit regardless of the purpose of the visit.

___ If a student is having sex but not using birth control, that student is promptly given an appointment for counseling and/or contraceptive care, as appropriate.

___ Frequency of family planning visits is determined on the basis of individual need. At a minimum, monthly follow-up is done until the client is using his/her selected method appropriately.

___ If a patient is having problems with a particular family planning method, another method is dispensed as appropriate.

___ A reasonable protocol is in place for students who use condoms to come back for continued counseling and supply pick-up or referral.

___ Case management and conferencing is done for all family planning clients who appear to be inconsistent users.

___ The clinic has a system in place for reminding clients of upcoming appointments. This system maintains the confidentiality of the purpose of the visit.

___ When a student misses a family planning appointment, the clinic has a tickler system for recontacting the student.

___ If pills or other methods of birth control are not dispensed, the clinic refers students to a particular provider that does dispense.

___ A physical examination is not required for nonprescription methods.

___ For those students who are getting nonprescription methods and who have not had a physical examination, getting a physical examination is encouraged.

CONFIDENTIALITY

___ Students understand that their parents will not be notified about visits for family planning without the students' consent.

___ Going to the clinic does not indicate that the purpose of the visit is for family planning (e.g., students know that many students go to the clinic for other purposes and students do not know that visits during particular hours means that the purpose is for family planning).

___ Other students do not work in the clinic and see students' records.

___ Students know that their clinic records will not be shared with the school authorities.

___ The clinic uses a variety of ways to communicate to students that family planning services are confidential (e.g., signs/posters in the waiting room, confidentiality is discussed in the counseling room, or a statement about confidentiality is included on the intake form).

OUTREACH

___ Staff give presentations in school classrooms to enhance visibility and acceptance on campus.

___ In classroom presentations, staff describe the full range of clinic services, including the reproductive health services.

___ Staff put up posters, give information to students during school registration, have columns in the school newspaper, or use some other method of adequately informing the students about the clinic's family planning services.

___ Clinic staff coordinate with school staff, especially the school nurse, teachers, and administrative staff, to facilitate referral and follow-up.

SEX EDUCATION IN THE CLASSROOM

___ Within the school, there is a sound sex education program that covers the major topics in sexuality: decisions about abstinence and having sex, birth control, the probability of pregnancy, and STD.

___ Within the school, there is a sex education program that provides considerable role playing and practice in saying no to sexual activity and insisting on the use of birth control when planning to have sex.

___ Clinic staff provide or assist with the sex education programs in the classroom.

GROUP SESSIONS

___ There are group rap sessions on sexuality available to students during or after school either in the clinic or linked with the clinic.

___ The sizes of these sessions are kept small so that students have ample opportunity to ask questions and to discuss their feelings about sexuality.

___ These are sufficiently well organized and advertised so that over time many students participate in them.

STAFF

___ Female clinicians and counselors are available.

___ Male clinicians and counselors are available.

___ Staff have genuine warmth, empathy, openness, concern, and respect for teens. They like to work with teens and have excellent rapport with teens.

___ Staff have previous experience working with teens.

___ Staff receive special training in adolescent development and medicine appropriate for their position.

___ Clinicians and counselors are given periodic in-service training.

___ Staff have training in sexuality.

___ All clinicians have training in pelvic assessment.

WAITING ROOM

___ The waiting room is attractive and appealing to teenagers.

___ The waiting room has pamphlets on sexual decision-making, contraception, pregnancy, STDs, and other family planning themes.

___ The waiting room has posters on sexual decision-making, contraception, pregnancy, STDs, or other family planning themes.

COUNSELING AND EXAMINATION ROOMS

___ Counseling and examination rooms are reasonably comfortable and private, allowing for confidential services.

MATERIALS

___ There are pamphlets on the decision to have or abstain from sex.

___ There are pamphlets on contraception.

___ There are pamphlets on STDs and AIDS.

___ There are pamphlets of each type appropriate for both males and females.

___ There are culturally-sensitive pamphlets on all topics, as appropriate.

___ The clinic has a variety of visual aides for counseling and education such as male and female pelvic models, samples of all family planning methods, and hand mirrors for observing the genitals during pelvic examinations.

COSTS

___ Services at the clinic are free or sufficiently low so that cost is not a barrier to access for students.

___ Pills, condoms, and other methods of birth control are free or cost only a small amount.

___ If the clinic charges for specific services (e.g., certain lab tests) or has an annual users' fee, partial payment is allowed when students cannot pay the full charge.

___ Sliding fee scales are used in clinics that charge for services.

___ Referral agencies provide free or low-cost care to students, including prescription drugs and supplies.

COMMUNITY RELATIONS

___ Clinic tours are available to students, parents, school staff and community members upon request.

___ Staff give presentations to parent groups and other community groups.

___ The clinic has a student advisory board, or some other procedure for getting input from the students on how to improve the clinic.

___ The clinic has a good reputation among the students.

___ The clinic is well accepted and supported by the school teachers and administration.

___ The clinic has an adult advisory board, or some other procedure for getting input from parents and adults in the community on how to improve the clinic.

___ The clinic has the support of the parents and community more generally.

___ The provision of quality health care by the clinic is not unduly limited by school, community, or state regulations.

EVALUATION AND ASSESSMENT

___ The clinic has a method established for determining how many teens are getting pregnant in the school each year and how many of the clinic's patients are getting pregnant.

___ The clinic does enough follow-up on pregnant teens to know the major reasons why the pregnant teens got pregnant.

___ The results of these assessments are used to improve the program.